ROMEX® COMPENDIUM

BECAUSE OUR EXPERIENCE MEANS YOUR SUCCESS

VALID FROM 01.03.2022

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GERMANY

QUALITÄT
MADE IN GERMANY

ROMEX® steht seit 1989 für hohe Qualität und außergewöhnlichen Service.
Weltweit begleiten wir Ihre Projekte. Denn unsere Erfahrung ist Ihr Erfolg!

ROMEX® stands for excellent quality and impressive service since 1989.
We accompany your projects worldwide. Because our experience is your success!

ROMEX® - PAVEMENT JOINTING MORTARS

ROMEX® - ISATEC® DISPLACEMENT PROTECTION

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ROMEX® - FLOOR COATINGS

IMPRINT

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ROMEX®
Quality since 1989

Who we are and what we do

As a family business, since it's founding in 1989 by our senior Rolf Meurer, ROMEX® has developed into a specialist supplier of industrial floor coatings and pavement jointing mortar with international significance.

We serve the trade with 1 and 2 component pavement jointing mortar binding agents and are considered to be the best-assorted manufacturer in this area. Rolf Meurer was the first to use synthetic resins as a binding agent for problem-free paving stone jointing for laymen and professional laying companies and who implemented this with top products, quality and corresponding customer advice.

In the field of project management we have specialized in producing epoxy resin (EP) and polyurethane (PU) industrial floor coatings for large industrial projects. In cooperation with our partner laying companies we offer the highest level of advice and supervised laying to ensure the best results for our customers. This also applies to projects involving our bedding and jointing systems for paving stone and slab flooring.

Because we have the longest experience. We leave no customer alone – because our experience is your success!

Founding family Meurer

Quality thanks to own production

ROMEX® products rightly have the quality seal „Made in Germany". All floor coatings and synthetic resin pavement jointing mortars are produced in our own production facility in Meckenheim near Bonn, Nordrhein-Westfalen. Our own Research and Development department, develops formulas that satisfy highest quality standards. ROMEX® has also set up it's own standards, that surpass the generally valid norms. Primers, floor coatings, sealants and pavement jointing mortar as well as pouring mortars made of synthetic resins and high-quality fillers are the main products, which are developed and produced according to the most modern aspects.

The factory test procedures as well as the production control fulfill all requirements for the harmonized Norm EN 1504-2: 2004.

Certificate for the conformity of works own production control

ROMEX® products that fall under the currently valid CE norms requiring identificatiion, all have the CE mark. This confirms that we as the manufacturer that our products conform to the valid EU guidelines. The entire product range is comprehensively tested on a regular basis. In addition, all products newly added to the program, are tested according to the applicable standards and guidelines and CE marked.

SPECIALIST IN PROJECTS THANKS TO EXPERIENCE

Since 1989 ROMEX® realizes demanding construction projects worldwide to the satisfaction of all involved. Because each project is unique, we support our customers with individual support. For the best possible completion of your project, we offer customized system solutions and accompany clients, planners and exporters up to the final inspection.

Success needs reliable partnerships. That is why we are especially careful to make sure that our partners are a good match with us and act nationally and internationally with personal contacts and competent consulting. As a responsible material manufacturer, we not only provide professional consultation, but are on hand throughout the process as your contact person in all matters concerning your project. So that all involved end up being satisfied: Architect, Planner and Contractor. Because our experience means your success.

OUTSTANDING SERVICE

In order to exceed the expectations of our customers for their finished project, more than just high-quality products are required. Starting with the consultation and planning of the required products, through to creating individual samples, up to the final inspection, we are happy to support you.

With the first consultation, it is important for us and our partners to lay the foundations for a successful project. All necessary work steps must always be planned and executed with special care. Our products require precise knowledge of the subsoil, structural conditions and environmental influences as well as careful planning and careful handling of the work.

By choosing ROMEX® you not only get a high-quality, tailored to the requirements of the project system, but you also get our excellent technical service on-site.

PROGRESS THANKS TO INNOVATION

Our aim is to maintain the high quality level and to continuously develop it. Our coating systems and pavement jointing mortars are based on our own formulas, developed by our ROMEX® Research and Development Department. The continuous new developments are oriented towards our own standards that by far surpass the currently valid norms.

All ROMEX® products are tested thoroughly in our own laboratories and are then certified by independent institutes. Thinking ahead and following new paths, have made ROMEX® what it is today. Active worldwide, this is a family run company that has been given awards for its products, such as the patented displacement protection system ISATEC®, which received the 2014 innovation medal, awarded by the Federal Association GaLaBau (BGL).

Research and development

Thinking ahead and pursuing new paths has made ROMEX® what it is today: a globally active family company with excellent and award-winning products. Among other things, our patented ISATEC® displacement protection system was awarded the Innovation Medal by the German GaLaBau Association (BGL) in 2014. In 2021, the project "pavement jointing mortar made from environmentally friendly raw materials and recycled packaging" won the special award for medium-sized companies in the Responsible Care competition of the VCI.

In order to work constantly at a high level, we continuously develop ourselves further. The entire pavement jointing mortar and coating systems are based on our own formulas, which are developed, tested and constantly improved by the ROMEX® research and development department. The further developments are based on specially established standards that go far beyond valid norms. All ROMEX® products are put through their paces in our laboratory and application technology department before being certified by independent bodies.

For example, the stability of bound paving surfaces was tested by the Technical University of Munich. In the test set-up, the ROMEX® system consisting of bedding mortar, bonding slurry and the pavement jointing mortar ROMPOX® - D2000 was tested. In the test series, a total of 100,000 rollovers were carried out for each test surface in both rolling directions with wheel loads increased in phases from 5 kN (heavy passenger car) to 50 kN (heavy truck) in each case. Finally, another test was carried out to simulate heavy, overloaded trucks (60 kN wheel load).

Our displacement protection system ROMEX® - ISATEC® was also tested and certified. MPVA Neuwied GmbH examined the improvement of the horizontal displacement resistance of paving stones through the use of special anchors in combination with viscoplastic special joint mortar as a joint sealant. In this way, a considerable increase in the displacement resistance could be proven and documented.

Memberships in associations

ROMEX® is a member of the trade association for screed and coatings, a service provider for the companies in the German screed and coatings trade. It supports it's member companies primarily in technical trade questions, in order to give the best possible technical advice to contractors and architects.

Since 2006 ROMEX® is part of the concrete association road, landscape, garden e. V., which independently represents the interests of manufacturers of concrete products, with the goal of making concrete paving stone construction even more effective for permanently functional and aesthetic surface coverings.

ROMEX® is also a member of the Association of the Chemical Industry e.V. (VCI) and the Central association of the manufacturers of construction chemical products "Deutsche Bauchemie". As a member of the VCI, we proactively participate in Responsible Care, an initiative of the chemical industry that is independent of legal requirements. The objective of the initiative is the continuous improvement of our products in the areas of environment, safety and health.

SLG Betonverband Straße, Landschaft, Garten e.V.

VERBAND DER CHEMISCHEN INDUSTRIE e.V. WIR GESTALTEN ZUKUNFT. VCI

DEUTSCHE BAUCHEMIE

TU MÜNCHEN

Investigations into the stability of bonded paving surfaces on drivable roofs


ROMEX TUM

TECHNISCHE UNIVERSITÄT MÜNCHEN

LEHRSTUHL UND PRÜFAMT FÜR VERKEHRSWEGEBAU
Univ. Prof. Dr.-Ing. S. Freudenstein

Bericht Nr. 2724 vom 25.02.2011

FORSCHUNGSBERICHT

Untersuchungen zur Standfestigkeit von gebundenen Pflasterflächen auf befahrbaren Dächern

(Nophadrain BV, Kerkrade/ROMEX PFM GmbH, Euskirchen)

Apart from a slight settlement (< 1 mm) of the pavement surfaces due to adaptation and some tyre wear, no changes or damage could be detected during test phases 1 to 3 (25 kN wheel load). Due to the load increase at the beginning of phase 4 (50 kN wheel load), a crack with a width of max. 0.3 mm running transverse to the rolling direction was detected in the partial area with concrete paving after approx. 5,000 load changes. The crack usually ran in the joint along the edge of the concrete block (adhesion between joint and concrete block interrupted), but also across a concrete block. Movements at the crack, loosening of stones or plastic deformations (formation of steps) were not observed at this stage.

In the course of the further 15,000 load cycles of stage 4, longitudinal cracking was initially observed in the partial area with concrete paving, starting from the transverse crack. As a result, further cracks were caused by concrete blocks as well as cracks along the joint flanks, associated with the detachment of blocks from the bond. Increasing movement of dislodged stones, associated with settlement up to approx. 3 mm, was observed towards the end of Phase 4. The transverse profile measurements after completion of phase 4 also show the indentation of loosened concrete stones in the area of the rolling track (area of concrete block paving from 0 mm to 750 mm in the transverse profile).

MPVA NEUWIED

Verification of the properties of a flexible jointing mortar


SACHVERSTÄNDIGE
der
Materialprüfungs- und Versuchsanstalt
Neuwied GmbH
Forschungsinstitut für vulkanische Baustoffe

Baustoffkundliche Bewertung

Auftrags-Nr.: 6-16/2154/21
Auftraggeber: Romex GmbH, Mühlgrabenstraße 21, 53340 Meckenheim
Auftragsdatum: 14. Oktober 2011
Ausfertigungsdatum: 14. Dezember 2021
Textseiten: 23
Anlagen: --

On 14 October 2021, MPVA Neuwied GmbH was commissioned by ROMEX® GmbH to determine the technical properties of the submitted flexible joint. For the production of the joint, it was produced from the submitted raw materials in accordance with DIN EN 1015-2, taking into account the manufacturer's specifications. The following assessments therefore refer exclusively to the results of the laboratory tests carried out.

As the results show, the flexible joint has a flexural tensile strength of 1.28 N/mm² with a solid mortar bulk density of 1,387 kg/m³. The deflection on reaching the breaking load was 11.8 mm on average. To verify the weather resistance, five test specimens were manufactured according to DIN EN 12 390-9 and subjected to 28 freeze-thaw cycles. The flexible joint has an average weathering rate of 25 g/m² in the CDF test. Thus, it reliably fulfils the requirements of Code of Practice M FPgeb for weathering resistance (requirement value < 500 g/m²). Furthermore, the mortar has a centric tensile strength of 0.44 N/mm² with a solid mortar density of 1,427 kg/m³. The average distance until the maximum force was reached was 9.9 mm. The investigation of the static modulus of elasticity was carried out using the specifications of DIN EN 13 412 on specimens > 28 days old with a test speed of 0.5 N/mm² × min. The result of the static modulus of elasticity is 14 N/mm². As the test results on permeability show, the flexible joint has an average water permeability of 6.6×10^{-5} m/s with a smallest single value of 6.1×10^{-5} m/s. Applying the specifications for water-permeable bedding mortars analogously, it can be stated that the investigated joint can be classified as "water-permeable" in the sense of Merkblatt M FPgeb (requirement value > 5×10^{-5} m/s).

MPVA NEUWIED

Comparative tests to improve the horizontal displacement resistance of paving stones by using ground anchors


SACHVERSTÄNDIGE
der
Materialprüfungs- und Versuchsanstalt
Neuwied GmbH
Forschungsinstitut für vulkanische Baustoffe

Baustoffkundliche Bewertung

Vergleichende Versuche zur Verbesserung des horizontalen Verschiebewiderstandes von Pflastersteinen durch Verwendung von Erdankern

Auftrags-Nr.: 6-16/2154/21
Auftraggeber: Romex GmbH, Mühlgrabenstraße 21, 53340 Meckenheim
Auftragsdatum: 14. Oktober 2011
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On 14 October 2021, MPVA Neuwied GmbH was commissioned by ROMEX® GmbH with the verification of the improvement of the horizontal displacement resistance through the use of the ground anchor "ISATEC® - STOP EAP" from the company ROMEX®. The aim of these investigations was to determine the influence of the use of ground anchors on the horizontal displacement slope of a paving slab by means of comparative investigations. The following table summarises the main results of the investigations.

Results					
		without ground anchor		with ground anchors	
		Try 1A	Try 1B	Try 2A	Try 2B
Force (kn)	horizontal	2,32	2,32	4,24	3,57
Coefficient of friction	**Individual values**	1,77	1,78	3,25	2,73
	Mean values	**1,78**		**2,99**	

As these results show, the displacement resistance could be reduced by 68.5 % through the use of the ground anchors.

Sustainability at ROMEX®

As a family business, humanity, trust and sustainability form the basis of a fruitful cooperation. We understand these values as a social resource in order to create added value for everyone who works with us. We are aware that there is only one planet Earth. That is why sustainability for us also means taking on social responsibility. One of the ways we do this is by setting our own climate targets, for example in the area of sustainable products and production processes.

After we were able to achieve our 2020 target of reducing CO_2 emissions by 25% in October 2020, we succeeded in saving another 15% CO_2 emissions in 2021. Through changes in the supply chain and the switch to regional raw materials, we are optimistic that we will be able to reduce emissions by more than 20% again in 2022.

Last year, these efforts were recognised with two awards. Both the VCI (German Chemical Industry Association) and EcoVadis, the world's largest and most reliable provider of sustainability ratings, recognised our commitment to sustainability.

EcoVadis awarded us the silver medal in recognition of our sustainability success.

We received the Special Award for Medium-Sized Businesses 2021 from the VCI for our contribution to the Responsible Care competition "Our Contribution to Climate Protection". The award went to our project "Pavement jointing mortar made from environmentally friendly raw materials and recycled packaging". The core of the project is the development of a mortar with a new binder based on renewable raw materials. In addition, the main ingredient, sand, was replaced by recycled products. The previous packaging was replaced by recycled plastics from household or commercial waste and the energy needed for production is generated by solar energy. Here, as a medium-sized company from the construction chemicals sector, we were able to prove how sustainability can be viewed holistically and implemented in an exemplary manner.

With the onset of the Corona pandemic, we learned that working from home and video conferences can save many kilometres of travel and make an effective contribution to gradually reducing CO_2 emissions. This way of working is now a permanent feature. But we also try to keep the environmental impact as low as possible in other ways. Therefore, when introducing new products, we attach great importance to sourcing raw materials and means of production as regionally as possible in order to reduce emissions caused by transport. But even with proven products from the current range, we are continuously working on producing them in an even more environmentally friendly way.

With the product ROMPOX® - ECOFINE, we have already succeeded in developing a binder with excellent properties that is largely made from renewable raw materials. The aggregates also consist, depending on the shade to a greater or lesser extent, of natural raw materials or even, in some cases, recycled raw materials.

Due to product specifications and durability reasons, we are currently still dependent on light- and oxygen-impermeable packaging and cannot completely dispense with plastic packaging. However, we already use 97% recyclable HDPE material. We are working flat out on fully sustainable packaging solutions. Because packaging legislation requires packaging to be taken back, we have decided to first ensure that the packaging is recycled in the most environmentally friendly way possible.

Thanks to our cooperation with the environmental service provider Interseroh, most of our packaging remains in the material cycle through high-quality recycling. We are gradually switching to packaging made of recycled plastic for all products. After the pilot project ROMPOX® - ECOFINE, the products ROMPOX® - EASY and ISATEC® - FLEX in the 97 % PCR bucket will follow in 2022. In contrast to many supposed recycled plastics, this post consumer recyclate (PCR for short) does not consist of leftovers from industrial production, but of "real" recycled outer packaging that is recycled from the yellow bin or deposit machines, for example.

ROMEX®-FORUM, on- and offline

In the spring of 2008, a new training centre was opened in Euskirchen for carrying out seminars called the ROMEX® - FORUM. This is where you can learn the "secrets" behind the application of our systems. We provide the right solution for each problem.

Expert speakers will inform you on current subjects regarding jointing with synthetic resin pavement jointing mortars, laying of paving stones and guidelines.

Target groups for theory and practical training courses are natural stone and construction trade specialists, construction company managers and local authorities, planners and architects as well as professional garden/landscapers. You will have the opportunity to gain new insights as well as have the chance to exchange knowledge with like-minded persons and our trained expert personnel.

The seminars will take place on the respective days from 10 am to around 3 pm. The cost for the 1 day seminar is € 50 per person Lunch and drinks, as well as samples and flyers are included.In case of staying longer, we can book a nearby hotel for you. Extra costs for this per person are 60,- € for a Three-star Hotel or 90,- € for a Four-star Hotel.

Should you not be able to participate on one of the set dates, ROMEX® will be happy to organise a personal training session for you (from five people)!

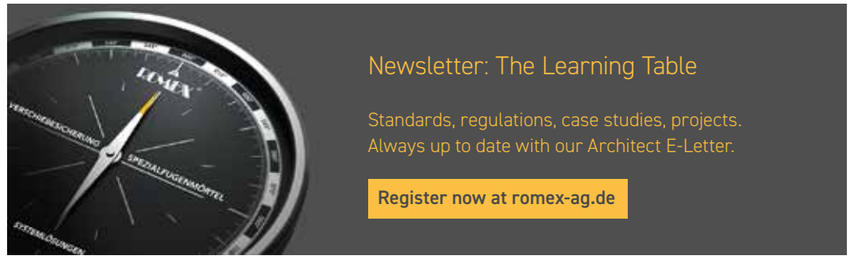
The number of participants for each forum day is limited to 25 persons. Should your required date be fully booked, we will be happy to suggest an alternative date.

Register with your ROMEX® contact person or at www.romex-ag.de

After doing this Training, nobody else will be able to show you how to do it!

This is what you can expect from us:

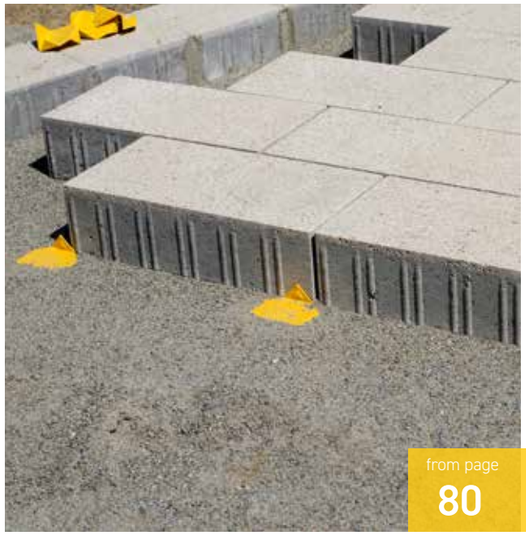
- Theoretical application principles
- Expert seminars tailored to specific target groups
- Practical application using our techniques
- Repair of old paved stone joints without new construction
- Current subjects taught by experienced expert speakers
- Water permeable systems for footpaths and tree pits/grates



Our core competence

Our range of pavement jointing mortars is based on the different requirements of joints. The ROMEX® pavement jointing mortar systems offer solutions against weeds, pollution and displacements for natural and concrete stones, clinker and porcelain stoneware and provide a permanently visually appealing image. Areas of application are both private and public areas with different loads, starting at lighter pedestrian loads up to the strongest traffic loads.

from page 16 PAVEMENT JOINTING MORTAR



As developer and manufacturer of displacement protection devices, we offer solutions to absorb shear forces on large format slabs and paving stone surfaces in innercity areas such as town squares, in pedestrian zones or in other areas of representative design. ROMEX® offers a solution for almost every application, even on bonded base courses, through anchor and special jointing mortar technology to be used specifically. A large range of various anchor types are available for this.

from page 80 DISPLACEMENT PROTECTION

The decorative grit and gravel strengthener ROMPOX® - DEKO and ROMPOX® - PROFI-DEKO are the modern solution for tree surrounds, footpaths and representative surfaces and thanks to the many advantages is replacing the classic metal tree surrounds. With the drainage capable bedding mortar ROMEX® - TRASS-BED we offer assurance for permanent paving stone jointing. With our repair mortar ROMPOX® - D4000 potholes can be quickly and permanently filled.

from page 118 GRIT AND GRAVEL STRENGTHENING

Our portfolio of modern products, such as primers, coatings and sealants, are especially designed for the industrial sector and their various requirements. We also offer high quality coatings for commercial and private sector use. Our floor coatings are used in production halls, clean rooms, carparks and underground carparks, the food industry and on stadium stands. They are suitable for steel surfaces or as concrete protection and are chemically and abrasion resistant.

from page 130 FLOOR COATING

Exceptionally competent. Experience and expert knowledge with modern building materials for 25 years.

Pavement jointing mortars

Areas of application of our pavement jointing mortars

Using ROMEX® pavement jointing mortars, all types of paved stone and slab surfaces in various areas can be jointed quickly and easily. Whether in the the private sector such as patios, garden paths, driveways or on public roads, pedestrian zones or on market squares. Yearly innumerable surfaces are jointed with our jointing mortar. They are much loved thanks to their ease of application in just a few steps. Weeds, frost damage or washing out of joints are a thing of the past, thanks to the fact that all ROMEX® pavement jointing mortars are frost and de-icing salt resistant as well as resistant to street sweepers and weed growth.

From DIY enthusiasts to construction companies and architects, one thing is always sure: you are always guaranteed a clean and permanently jointed surface. Worldwide our products contribute to the high quality construction or repair of paved stone surfaces, garden and landscaping and parliament squares and have made their mark on the image of towns and communities.

Patios

pavement jointing mortars are often used around the house. It is mainly patios and garden paths that are jointed, in order to permanently prevent weed growth. Synthetic resin pavement jointing mortars are especially liked for use on patios paved with high quality stones. They are not only the best solution against weeds and ants, but also offer longterm visually attractive surfaces. The classic product for all non trafficked areas around the house is our jointing mortar **ROMPOX® - EASY**. This is already pre-mixed and can be easily worked into the cleaned, at least 30 mm deep joints with a width of at least 5 mm using a rubber scraper or broom: perfect for all those who like to do it themselves.

Our 2 component systems offer further possibilities for jointing If you have joint widths of less than 5 mm, you can use **ROMPOX® - D1**. Thanks to it's pouring capability it is most suitable for jointing 3 mm | 1/8" joint widths. We also recommend D1 for the jointing of polygonal slabs (also called broken stone or wild form slabs). If large quantities of rainwater need to be dispersed quickly into the ground or if standing water is left after rain showers because it doesn't drain off quickly enough through the joints, then we recommend our pavement jointing mortar **ROMPOX® - DRAIN**. It has a water permeability value of 15 l | 3.96 gal per minute per m² of jointing mortar, which is the most water permeable.

If the joints on your patio are less than 3 mm | 1/8" wide, which is often the case with concrete stone slabs, then we recommend against using pavement jointing mortar for the joints. In this case we recommend using **ROMPOX® - JOINTING SAND NP**, which is much better than general purpose jointing sands or **ROMPOX® - JOINT STRENGTHENER**, a special liquid for strengthening sand joints. The joints are filled with dry quartz sand before the special liquid is poured into the joints.

Driveways

In order to prevent weedgrowth on surfaces around the house with higher loads, such as driveways or parking spaces, using our high quality 2 component systems are just the thing. Due to higher compressive strengths and better adhesion to edges compared to 1 component pavement jointing mortars, the systems **ROMPOX® - DRAIN, ROMPOX® - DRAIN PLUS und ROMPOX® - D1** are ideal for driveways with traffic loads up to 7.5 t. The highly water permeable pavement jointing mortars allow rainwater to drain away quickly, which communities count as surfaces that are not sealed and thus contribute to environment protection.

Jointing should be uncomplicated, with a high quality and environmentally friendly result. Our new, particularly sustainable 1-component pavement jointing mortar **ROMPOX® - ECOFINE** is already ready-mixed and is very suitable for ceramic tiles and fine stoneware. It is quick and easy to use and is thus aimed at professional laying companies and garden landscapers as well as private users that want to do their jointing at home themselves.

Public sector

Pedestrian zones, market squares and roads

The most commonly planned regulation construction methods are carried out as unbonded or open construction methods according to DIN 18318:2019. Due to ever increasing traffic loads, delivery traffic, weekend and christmas markets, extreme weather effects and the effect of paved stone cleaning using vacuum sweeping machines, the joints disappear and erosion of the entire paved stone surface commences. Each period of frost causes hydraulically bound joints to have weak areas which crack and break out. Longterm the result is empty joints, dislodged paving stones and a damaged surface. A major problem in this, is that the surface becomes dangerous to walk on and the risk of accidents for residents and tourists increases. Thanks to our synthetic resin pavement jointing mortar, frost damage is a thing of the past, as well as unsightly cement residue. With our jointing systems, all your surfaces will be made to look particularly appealing. A further advantage of synthetic resin systems is the quick re-opening to traffic after jointing. In comparison to most hydraulically bound pavement jointing mortars where re-opening to traffic usually only happens after 28 days, surfaces jointed with our pavement jointing mortar **ROMPOX® - D2000** can be re-opened after just 24 hours.

Even surfaces meant for heaviest loads such as bus and lorry traffic can be jointed using our jointing mortar **ROMPOX® - TRAFFIC V2**, our strongest pavement jointing mortar with a compressive strength of well over 50 N/mm² | 145 psi, able to withstand such loads.

Special solutions

Asphalt repair and curbstone repair

Potholes, damaged areas and breakages on curbstones are annoying and a source of risk. It is therefore logical that towns and communities are interested in making sure that these occurences are permanently resolved as soon as possible. **ROMPOX® - D4000** makes it possible. In addition, with **ROMPOX® - D4000 HR**, we offer a unique, highly reactive repair mortar in winter that can be applied even at temperatures as low as -10 °C. This means that road maintenance companies can use the product all year round to keep on top of damaged areas and potholes. Thanks to it's property of high strength mortar system, even broken off curbstones can be permanently repaired.

Repairing old cement joints

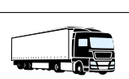
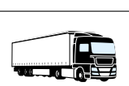
Until now, the repair of old paved stone surfaces was limited. Depending on usage and degree of damage to the paved stone surface, the only way was to re-lay the surface as new, which is very expensive. The old joints can be repaired without having to take up and re-lay the paving stones, if the surface is still in good shape and can be walked and driven on, and it is only joint repair and stabilising of the surface that needs to be achieved.

Using **ROMPOX® - D3000** it is possible to re-work and repair old cement joints. Narrow joints and cracks in the paved stone surface can also be repaired. The joint width must be at least 3 mm | 1/8", the depth at least 10 mm | 3/8".

Gutters

According to ATV DIN 18318:2019 the joint widths for gutters should be between 10–15 mm | 3/8–1/2" the paving stone should be set "fresh on fresh" and jointed using bonded pavement jointing mortar. For jointing gutters made of natural stone or concrete stone paving stones, which drain surface water into the drainage system, we recommend **ROMPOX® - D2000**. This combines high compressive strength with very good application properties.

Overview pavement jointing mortars

	Product	Optimum areas of application	Joint width	Joint depth	Load class		Water permeability	Containers	Page
Private sector	**ROMPOX® - ECOFINE**	· For closely laid paving stones and slabs	from 3 mm	> 30 mm		Pedestrian loads	Highly water permeable	12.5 kg | 27.56 lb bucket	26–27
	ROMPOX® - JOINTING SAND NP	· For tightly laid paving stones, Interlocking paving · Driveways	> 1 mm	> 30 mm		All load classes	Permeable	25 kg | 55.12 lb bag	28–29
	ROMPOX® - EASY	· Patio, Garden path · For coated and sensitive stone surfaces	> 5 mm narrower joints can be jointed but with increased work	> 30 mm		Light traffic loads up to 3.5 tons	Highly water permeable	15 kg | 33.07 lb bucket, 25 kg | 55.12 lb bucket	30–31
	ROMPOX® - DRAIN	· Driveways, parking space	> 5 mm	> 30 mm		Light traffic loads up to 3.5 tons	Highly water permeable	26.8 kg | 59.08 lb bag 25 kg | 55.12 lb bucket	32–33
	ROMPOX® - DRAIN PLUS	· Driveways, parking space	> 5 mm	> 30 mm		Light traffic loads up to 3.5 tons	Highly water permeable	26.5 kg | 58.42 lb bag	34–35
	ROMPOX® - D1	· Polygonal slabs · Driveways, parking space	> 3 mm	> 30 mm		Medium traffic loads up to 7.5 tons	Highly water permeable	27.5 kg | 60.63 lb bag, 25 kg | 55.12 lb bucket 12.5 kg | 27.56 lb bucket	36–37
	ROMPOX® - JOINT STRENGTHENER	· Coated concrete and natural stones as well as clinker surfaces	> 1 mm	> 30 mm		Light traffic loads up to 3 tons	Highly water permeable	1 Ltr. | 0.26 gal bottle, 5 Ltr. | 1.32 gal canister, 10 Ltr. | 2.64 gal canister	46–47
	ROMPOX® - D7000	· For pathways and commercial surfaces · Road covers	–			Light traffic loads up to 3 tons	Very high water permeable	20 Ltr. | 5.28 gal canister	48–49
Public sector	**ROMPOX® - D2000**	· Public paved stone surfaces	> 5 mm	> 30 mm		Medium to heavy up to 25 t	Water permeable	27.5 kg | 60.63 lb bag	52–53
	ROMPOX® - D3000	· Suitable for repairing broken cement surfaces	> 3 mm	> 10 mm Depth of joint crack		Medium to heavy up to 25 t	Highly water permeable	27.5 kg | 60.63 lb bag	54–55
	ROMPOX® - TRAFFIC V2	· Public surfaces with heavy loads	> 8 mm	> 30 mm		Heaviest loads up to 40 t	Water permeable	28 kg | 61.73 lb bag	56–57
	ISATEC® - FLEX	· Public surfaces with heavy loads	> 5 mm	> 30 mm		Heaviest loads up to 40 t in combination with ISATEC® - STOP up to Bk3,2	Water permeable	25 kg | 55.12 lb bucket	87
	ROMPOX® - D4000	· Renovation, repair of public areas	surface depth > 10 mm			Heaviest loads up to 40 t	–	17.5 kg | 38.58 lb bucket	64–65
	ROMPOX® - D4000 HR	· Renovation, repair of public areas	surface depth > 10 mm			Heaviest loads up to 40 t	–	17.5 kg | 38.58 lb bucket	66–67
Bedding products	**ROMPOX® - TRASS-BED**	· Private and public sector	> 3 cm layer thickness			Heaviest loads up to 40 t	Highly water permeable	40 kg | 88.18 lb bag	72–73
	ROMPOX® - TRASS-BED-COMPOUND	· Private and public sector	> 3 cm layer thickness			Heaviest loads up to 40 t	Highly water permeable	25 kg | 55.12 lb bag	74–75
	ROMPOX® - ADHESION ELUTRIANT	· Private and public sector	> 3 mm layer thickness			Heaviest loads up to 40 t	–	25 kg | 55.12 lb bag	76–77

* depending on grain size

Private
Systems for the
private sector

Using ROMEX® pavement jointing mortars

all types of paved stone surface and slabs in various areas
can be jointed quickly and easily.

Natural stones

Polygonal and crazy paving

Concrete stones and slabs

Ceramic fine stoneware

Sandstone

Granite and slate

For more than 25 years, ROMEX® has been a worldwide leader for synthetic resin pavement jointing mortar. Our jointing mortar that has been tailored to meet various requirements, forms the basis of a solid, clean and permanent paved stone joint.

As manufacturer of modern products for the sector paving stone jointing and old paving stone repair, with our own research and development department, you can expect from ROMEX® tested, certified and trademark protected products of the highest quality. The quality of our products is ensured by quality standards developed by ourselves, which surpass the generally valid norms.

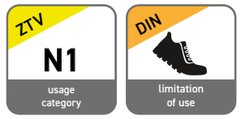
Paved stone surfaces, that are laid without solid joints, start to look messy over time. Weeds grow in the joints, the stones become tainted through moss and dirt. Regular cleaning to clear the moss and dirt has to be carried out. Clean the paved stone surface and then re-fill the joints with a ROMEX® pavement jointing mortar, without having to exceed the available budget.

ROMPOX® - ECOFINE

The sustainable pavement jointing mortar for narrow joints

ROMPOX® - ECOFINE is a ready-mixed, elutriant-compatible 1-component pavement jointing mortar. The mortar hardens/cures after reacting with air-oxygen and is therefore vacuum-packed. Thanks to its simple application, this highly water-permeable jointing mortar is ideal for professionals and do-it-yourselfers and keeps the joints unsealed. ROMPOX® - ECOFINE is used around the house on terraces, sidewalks and driveways with light, occasional car traffic (with non-settling, water-permeable bedding). The pavement jointing mortar is also particularly suitable for ceramic tile coverings with high optical requirements, thanks to the fine joint pattern.

[1] Packaging waste from the recycling loop. e.g. yellow sack, deposit machines, etc.
[2] Ceramic tiles are bonded and laid so that they are water-permeable



Properties

- joint widths from 3 mm, joint depths from 30 mm
- for 2 cm thick ceramic tiles
- for closely laid paving stones and slabs
- resistant to frost and road salt
- mixed ready to use, vacuum packed
- can be elutrified without loss of quality
- suitable for almost all coated and sensitive types of stone
- almost resin film free

APPLICATION

Construction site requirements: The subsurface should be built according to the expected traffic loads. The regulations and leaflets for the production of paved stone surfaces should be observed. Subsequent loads must not cause any subsidence of the surface or loose stones. Ideally ROMEX® Trass bed products should be used to get the ROMEX® SYSTEM GUARANTEE (RSG). The use of ROMEX® application tools is recommended for optimal application. Do not use in "permanently wet areas" (e.g. swimming pools, fountains, ponds, drainage channels, etc.). Only use with water permeable superstructure (bed and base course), or use a slope of at least 2%.

Preparation: Clean out joints to a depth of at least 30 mm (with traffic loads: ²⁄₃ of stone height, minimum joint width 3 mm). With slab thickness of less than 30 mm, bonded construction must be used and the entire joint completely filled with ROMPOX® - ECOFINE. The surface to be jointed must be cleaned of all dirt, adjacent surfaces that are not to be jointed are masked off.

Pre-wetting: Intensely pre-wet surface. Porous surfaces as well as higher surface temperatures, require more intense pre-wetting. Standing water in the fresh joint should be avoided.

Application: Open the lid of the bucket, remove vacuum bag, cut and immediately pour the pavement jointing mortar in sections over pre-wet surface. Then work the pavement jointing mortar using a gentle spray of water and squeegee intensively into the joints to ensure that the joints are completely filled. In contrast to our other products, ROMPOX® - ECOFINE must be continuously elutrified with plenty of water. No further compacting is necessary. Mortar residue is washed off the surface with a fine jet of water without washing out the joints.

Final cleaning: Finally, gently sweep off the stone surface using a damp coconut broom, until free of all mortar residue. Brush diagonally to the joint. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. Material swept away is no longer used. Residual adhesions on the stone surface can still be swept off after 24 hours using a rough road broom.

Subsequent treatment: No rain protection is necessary in the case of drizzle. In continuous or heavy rain, the freshly jointed surface should be protected against rain for approx. 24 hours. The rain protection (construction sheeting / tarpaulin) can be laid directly onto the surface. Initially, a very thin synthetic resin film can remain on the stone surface, which intensifies the color of the stone and protects it from soiling. However, this film disappears when the surface is exposed to weathering and as a result of abrasion over time.

Important information: ROMPOX® - ECOFINE has a characteristic, harmless odour of natural oils. This disappears over time after completed hardening/curing. We therefore recommend using the product only in well-ventilated outdoor areas. If in doubt, we recommend creating a sample area. Tools can be cleaned with water immediately after jointing. Whilst working, it is recommended using non permeable, protective gloves, tightly closing safety goggles and protective clothing. Water retentive moss, leaves and weeds should be regularly removed from the jointed surface. Due to type of raw material, the joint easily sands off. All filler materials are natural products with which natural colour variations can occur.

TECHNICAL DATA

Testing all colours and determination of average values:		
System	Solvent free copolymer resin based on renewable resources	
Compressive strength	8,5 N/mm² | 1 233 psi Building site value	DIN 18555 part 3
Bending tensile strength	3,9 N/mm² | 566 psi Building site value	DIN 18555 part 3
Hard mortar raw density	1,56 kg/dm³ | 0.90 oz/in³	DIN 18555 part 3
Application time at 20 °C | 68 °F	approx. 25 minutes	ROMEX®-norm 04
Application temperature	5 °C up to max. 30 °C | 41 °F up to max. 86 °F At lower temperatures slow hardening, At high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability	3.95 × 10⁻⁴ m/s = approx. 1.7 l/min/m² for a joint fraction of 10 % 55.9 iph ≙ approx. 0.095 gal/min/sqft for a joint fraction of 10 %	
Storage life	min. 12 months	
Storage	Protect container against direct sunlight, do not stack pallets frost-resistant	

Consumption table in kg/m² | lb/sq ft - Basis for calculation: joint depth Ø 30 mm | 1 ¼"						
Joint width	stone size	80 × 40 cm 31 ½" × 15 ¾"	60 × 60 cm 23 ½" × 23 ½"	32 × 24 cm 12 ½" × 9 ½"	24 × 16 cm 9 ½" × 6 ¼"	9 × 11 cm ⅜" × ⅜"
	3 mm | ⅛" (min.)	0,6 kg 1.4 lbs	0,5 kg 1.1 lbs	1,0 kg 2.1 lbs	1,5 kg 3.3 lbs	2,7 kg 6.0 lbs
	5 mm | ¼"	0,9 kg 2.1 lbs	0,8 kg 1.8 lbs	1,7 kg 3.7 lbs	2,4 kg 5.3 lbs	4,4 kg 9.7 lbs
	Polygonal slabs	We recommend ROMPOX® - D1				

The "beige" colour consists of 96% natural and 2% renewable raw materials
The colour "grey" consists of 67% natural, 2% renewable, 29% recycled raw materials
The colour "anthracite" consists of 19% natural, 2% renewable, 77% recycled raw materials

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - JOINTING SAND NP

The solid, self-repairing jointing sand

Now even better:
Less dust thanks to a recipe adjustment

ROMPOX® - JOINTING SAND NP is a jointing sand for water permeable joints, that prevents weed growth and is made mainly of natural raw materials. Thanks to it's uncomplicated and quick application, ROMPOX® - JOINTING SAND NP is ideal for narrow joints, especially with interlocking paving stones on patios and driveways as well as in public spaces. The binding agent ensures that when small joint cracks come into contact with water, they repair themselves. ROMPOX® - JOINTING SAND NP is more durable than all other unbonded joint fillings and fulfills the requirements of the AgBB-Scheme according to testing by the eco-Institute in Köln.

Properties

- joint widths from 1–5 mm | 1/16 – 1/4"
- for tightly laid paving stones
- self repairing
- suitable for coated and sensitive stone surfaces as well as ceramic slabs
- for unbonded construction
- AgBB certificated
- frost and de-icing salt resistant
- water permeable
- no cement haze / residue

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Do not use in "permanently wet areas" (swimming pools, fountains, drains, drip edges etc.), as the joint sand slowly dissolves when exposed to permanent water or standing water. Only use with water permeable superstructures (bed and base course) or on a slope of at least 2 %.

Preparation: The entire joint must be free of any roots or organic matter in order to prevent existing weeds in the ground from re-growing. Use appropriate methods. ROMPOX® - JOINTING SAND NP should be worked in to at least 2/3 of the height of the stone. With a slab thickness less than 30 mm, bonded laying methods should be used and the whole joint filled completely with ROMPOX® - JOINTING SAND NP.

Application: Pour the jointing sand onto the dry surface and mix it with a spade, to ensure the best mixing of grainsize. Using a broom work into the joints. In order to achieve the best filling of the joint, always sweep diagonally to the joint. Fill the jointing sand up to the top edge of the paving stone or the bevel. Sweep of the paved stone surface carefully using a fine hair broom, until no more sand is on the stone surface. Then wet the joints using a spray set to fine mist (Do not use a watering can). The joint should be moistened until it no longer absorbs the water. Repeat this process after 1-2 hours.
With new construction we recommend compacting using a vibratory plate as long as the paved stone / slab covering is suitable for vibratory plates. If necessary use a protective mat. Afterwards re-fill joints again.
Professional tip: On some porous and/or dark surfaces, it can be difficult to completely remove all product residue. In order to remove all residue from the stone surface, use a leaf blower. If there is still a visible light residue on the stone surface, then this will disappear over time from weathering.

Final cleaning: If necessary, any sand residue left on the surface can be swept off using a large, coarse broom the next day. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. The surface is loadbearing after 24–48 hours.

Subsequent treatment: For joint maintenance care should be taken, to ensure that no organic matter (i.e. soil) is left on the surface of the joints. Rotting leaves/grass should be cleaned regularly off the stone surface and out of the joints. Use general purpose algae and moss remover. In order to prevent weed growth and movement of paving stones, regular re-filling of the joints to the top edge of the paved stone / slab covering, should be carried out. The best results are achieved by completely filling the joint. The jointing sand becomes plastic if subjected to long periods of water loads. Any settling cracks or small areas of damage, can be smoothed and removed using a smoothing iron when the joint has become plastic.

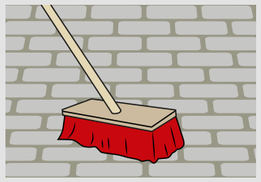
Important note: Avoid rivulets. During damp periods, white discolouration of the edge of the paved stones may occur during the drying phase. This will disappear from weathering after a period of time or it can be easily cleaned away with water. Not suitable for high pressure cleaning. If in doubt, we recommend creating a sample area.

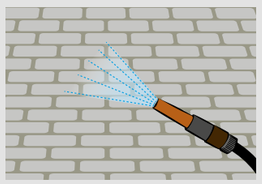
TECHNICAL DATA

Pouring density	1.55 g/cm³ | 96.8 lb/cu ft
Application time at 20 °C | 68 °F	unlimited
Application temperature	min. +5 °C | +41 °F, dry surface
Re-opening of surface at 20 °C | 68 °F	after 24–48 hours can be walked on
Water permeability coefficient*	water permeable
Storage life	24 months
Storage	dry, in original sealed bag, frost-resistant

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 30 mm | 1 1/4" / joint width Ø 3 mm | 1/8" *1

Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2"× 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2 "× 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	1 mm | 1/16" (min.)	0,2 kg 0.4 lbs	0,2 kg 0.4 lbs	0,2 kg 0.5 lbs	0,4 kg 0.8 lbs	0,5 kg 1.1 lbs	1,0 kg 2.1 lbs
	3 mm | 1/8"	0,5 kg 1.2 lbs	0,5 kg 1.0 lbs	0,7 kg 1.6 lbs	1,0 kg 2.3 lbs	1,5 kg 3.2 lbs	2,7 kg 6.0 lbs





GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.
*1 Your individual consumption is the table value divided by 30 mm and multiplied by the actual joint depth in mm.

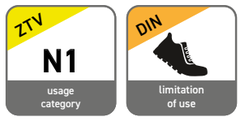
ROMPOX® - EASY

Easiest to use pavement jointing mortar

ROMPOX® - EASY is a mixed and ready to use 1-component pavement jointing mortar. After application it hardens/cures with air/oxygen and thus comes vacuum packed. Thanks to it's ease of use, this highly water permeable jointing mortar is ideal for DIY enthusiasts. ROMPOX® - EASY is used all around the house such as patios, footpaths and surfaces that have occasional light vehicle loads (with non settling, water permeable foundation beds). The pavement jointing mortar can be used with almost all natural stones, natural and concrete stone slabs as well as clinker stone surfaces.

REGIONAL SAND, NEW COLOUR

For the sake of the environment, we have switched to local sands which contain a slightly changed colour shade and finer grain size. For optical reasons, please do not mix these new batches with older ones!



Properties

- joint widths from 5 mm | 1/4"
- joint depths from 30 mm | 1 1/4"
- mixed ready to use, vacuum packed
- also for DIY use
- suitable for coated and sensitive stone surfaces as well as ceramic slabs
- frost and de-icing salt resistant
- water permeable

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Loads that later go over the surface must not cause the surface to sink or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools. Do not use in "permanently wet areas" (swimming pools, fountains, drains, drip edges etc.) Only use with water permeable superstructures (bed and base course) or on a slope of at least 2 %.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4" (in case of traffic loads 2/3 of stone height, minimum joint width 5 mm | 1/4"). With a slab thickness less than 30 mm, bonded laying methods should be used and the whole joint filled completely with ROMPOX® - EASY. The surface to be jointed should be cleaned of all impurities before work commences. Adjacent surfaces that are not to be jointed must be taped off to avoid resin contact.

Pre-wetting: It is important to pre-wet the surface and keep it moist during the install. More porous surfaces as well as hotter surface temperatures, will require more and consistent pre-wetting. Ensure water is not collecting in the joints.

Application: Open the bucket, take out vacuum bag, cut open and pour the pavement jointing mortar evenly and completely onto the well moistened surface. Subsequently, work the pavement jointing mortar into the joints using a broom or rubber squeegee, ensuring it compacts deep into the joints and fills them completely. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.
Tip for narrow joints: In order to compact the joints even better, the freshly applied pavement jointing mortar can be elutrified using a water spray jet. Sunken joints are re-filled with more pavement jointing mortar. Avoid any standing water in the fresh joints, ensure there is sufficient slope.

Final cleaning: Use a soft, hair broom to carefully sweep the stone surface until all residual mortar has been removed. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. Sweeping should be done diagonally to the joint. Do not re-use swept off material. Residual material on the stone surface can still be swept off with a street broom after 24 hours.

Subsequent treatment: No rain protection is necessary in the case of drizzle. In continuous or heavy rain, the freshly jointed surface should be protected against rain for approx. 24 hours. The rain protection (construction sheeting / tarpaulin) can be laid directly onto the surface. Initially, a very thin synthetic resin film can remain on the stone surface, which intensifies the color of the stone and protects it from soiling. However, this film disappears when the surface is exposed to weathering and as a result of abrasion over time.

Important information: ROMPOX® - EASY has a unique odour. This will disappear after time as the product fully hardens. We thus recommend only using the product in well-ventilated areas outdoors. In case of doubt, please lay a sample surface before commencing entire jointing. Work tools can be cleaned with water after jointing. During work, it is recommended that impermeable and resistant protective gloves, tightly closed protective glasses and protective work clothing are worn. Moss, leaves and weeds that can store water should be removed from the jointed surface regularly. Due to raw materials, the joint may sand off slightly. All filler materials are natural products which are subject to natural colour deviations.

TECHNICAL DATA

Test report, audited colour „neutral", goods in buckets.		
System	1-component-Polybutadiene	
Compressive strength	7.1 N/mm² | 1 030 psi Laboratory value 5.9 N/mm² | 856 psi Building site value	DIN 18555 part 3
Bending tensile strength	3.4 N/mm² | 493 psi Laboratory value 3.6 N/mm² | 522 psi Building site value	DIN 18555 part 3
Static elasticity module	820 N/mm² | 118 931 psi Laboratory value 690 N/mm² | 100 076 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.54 kg/dm³ | 0.89 oz/in³	DIN 18555 part 3
Application time at 20 °C | 68 °F	approx. 25 minutes	ROMEX®-norm 04
Application temperature	5 °C up to max. 30 °C | 41 °F up to max. 86 °F At lower temperatures slow hardening, At high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability	7,5 × 10⁻⁴ = 2,3 l/min/m² for a joint fraction of 10 %	
Storage life	min. 24 months	
Storage	Protect container against direct sunlight, do not stack pallets frost-resistant	

Consumption table in kg/m² | lb/sq ft - Basis for calculation: joint depth Ø 30 mm | 1 1/4"							
Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2"× 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2"× 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	5 mm | 1/4" (min.)	0,9 kg 1.9 lbs	0,8 kg 1.7 lbs	1,2 kg 2.6 lbs	1,7 kg 3.7 lbs	2,4 kg 5.2 lbs	4,4 kg 9.6 lbs
	10 mm | 3/8"	1,7 kg 3.8 lbs	1,5 kg 3.4 lbs	2,3 kg 5.0 lbs	3,2 kg 7.1 lbs	4,5 kg 9.9 lbs	7,9 kg 17.5 lbs
	Polygonal slabs	We recommend ROMPOX® - D1					

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - DRAIN

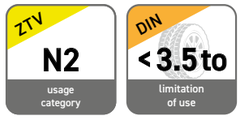
The permeable pavement jointing mortar

ROMPOX® - DRAIN is a highly water permeable 2-component epoxy resin based pavement jointing mortar. This is our classic since day one. ROMPOX® - DRAIN is used all around the house, especially in driveways and parking spaces in front of the house. Joint almost all natural or concrete stones as well as slabs with a joint width of at least 5 mm | 1/4", and protect your paved stone surface permanently against weed growth. Make your contribution to environmental protection by using the highly water permeable pavement jointing mortar ROMPOX® - DRAIN. Because you will be strengthening your surfaces, paths and driveways without sealing them!

Properties

- joint widths from 5 mm | 1/4"
- joint depths from 30 mm | 1 1/4"
- self compacting
- water emulsifiable
- frost and de-icing salt resistant
- highly water permeable
- no cement haze / residue

HIGHEST WATER PERMEABILITY OF OUR PAVEMENT JOINTING MORTARS



APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4" (in case of traffic loads 2/3 of stone height, minimum joint width 5 mm | 1/4"). With a slab thickness less than 30 mm, bonded laying methods should be used and the whole joint filled completely with ROMPOX® - DRAIN. The surface to be joint-fixed should be cleaned of all impurities before work commences. Adjoining surfaces that are not to be joint-fixed are taped off.

Pre-wetting: Pre-wet the surface. Porous surfaces as well as higher surface temperatures, require more intense pre-wetting.

Mixing bags: Pour the 25 kg | 55 lbs filler components into the mixing tub and start the mixing process. Whilst mixing, slowly add the separately packaged 1.8 kg | 4.0 lbs resin/hardener component completely into the mixture. After mixing for 3 minutes add 2 litres | 0.53 gal of water. To do this, fill up the two previously emptied resin/hardener bottles with 1 litres | 0.26 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. Continue mixing well for at least 3 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.
Mixing buckets: Open the bucket, open bottles within and pour the contents completely into the filler material component. In order to fully use the contents of the bottle, both bottles should be rinsed with water. To do this, fill up the two previously emptied resin/hardener bottles with 1 l | 0.26 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. Start the mixing process. Do not add water! Total mixing time: at least 6 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.

Application: Apply the mixed pavement jointing mortar onto the well moistened surface and work it carefully into the joints using a squeegee/rubber slider. The mortar is poured out at three or four spots within the jointing area in order to make best use of the fluidity of the pavement jointing mortar. If the ready mixed mortar is not used up straight away, before continuing with application and remaining within the stated application time, mix the remaining mortar through again briefly to ensure it has optimum flow capability. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.

Final cleaning: After approx. 10–15 minutes the excess mortar on the surface of the stones can be swept off carefully with a large, coarse broom. Then use a soft, hair broom to do a final cleaning until all residual mortar has been removed from the surface. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. The correct moment for sweeping, is when white smears no longer form on the stone surface during sweeping. Sweeping should be done diagonally to the joint. Do not reuse swept off material.

Subsequent treatment: The freshly jointed surface needs to be protected against rain for the next 12–24 hours. The rain protection layer must not be laid directly onto the paved surface, to ensure sufficient air circulation

Important note - resin film: During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. A resin film does not constitute an "application fault" and the quality of the surface is not compromised in any way. For further information please take note of the ROMEX® compendium.

TECHNICAL DATA

Test report no. 55-2909/04 CPH-7134-DRAIN, audited colour „neutral", goods in bags.		
System	2-component epoxy resin pavement jointing mortar	
Compressive strength	15.1 N/mm² | 2 190 psi Laboratory value 9.2 N/mm² | 1 334 psi Building site value	DIN 18555 part 3
Bending tensile strength	7.4 N/mm² | 1 073 psi Laboratory value 5.1 N/mm² | 740 psi Building site value	DIN 18555 part 3
Static elasticity module	1 240 N/mm² | 179 847 psi Laboratory value 1 550 N/mm² | 224 808 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.57 kg/dm³ | 0.91 oz/in³ Laboratory value 1.29 kg/dm³ | 0.75 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, At high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability coefficient*	4.96 × 10⁻³ m/s ≙ approx. 15 l/min/m² for a joint fraction of 10 % 703 iph ≙ approx. 0.37 gal/min/sqft for a joint fraction of 10 %	
Storage life	24 months	
Storage	resin/hardener components: frostfree, filler components: dry	

Consumption table in kg/m² | lb/sq ft - Basis for calculation: joint depth Ø 30 mm | 1 1/4"							
Joint width	**Stone size**	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2" × 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2" × 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	5 mm | 1/4" (min.)	0,7 kg 1.6 lbs	0,7 kg 1.4 lbs	1,0 kg 2.1 lbs	1,4 kg 3.1 lbs	2,0 kg 4.3 lbs	3,7 kg 8.0 lbs
	10 mm | 3/8"	1,4 kg 3.2 lbs	1,3 kg 2.8 lbs	1,9 kg 4.2 lbs	2,7 kg 6.0 lbs	3,8 kg 8.3 lbs	6,6 kg 14.6 lbs
	Polygonal slabs	We recommend ROMPOX® - D1					

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - DRAIN PLUS

The secure pavement jointing mortar

ROMPOX® - DRAIN **plus** is a 2-component epoxy resin pavement jointing mortar, that is used for surfaces with light to medium traffic loads. Our permeable pavement jointing mortar ROMPOX® - DRAIN has been improved to become „PLUS" and can be applied at the lowest temperatures and in the rain. It is no longer necessary to cover the surface after application. It also enables an even quicker re-opening to traffic.


neutral


stone grey


basalt

Properties

- joint widths from 5 mm | 1/4"
- joint depths from 30 mm | 1 1/4"
- self compacting
- water emulsifiable
- frost and de-icing salt resistant
- highly water permeable
- no cement haze / residue

THE PLUS

- can be applied during drizzle
- no need to cover the area during drizzle
- quick re-opening to traffic


no weed growth


pressure washer use


firm to walk on

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4" (in case of traffic loads 2/3 of stone height, minimum joint width 5 mm | 1/4"). With a slab thickness less than 30 mm, bonded laying methods should be used and the whole joint filled completely with ROMPOX® - DRAIN **plus**. The surface to be joint-fixed should be cleaned of all impurities before work commences. Adjoining surfaces that are not to be joint-fixed are taped off.

Pre-wetting: Pre-wet the surface. Porous surfaces as well as higher surface temperatures, require more intense pre-wetting.

Mixing: Pour the 25 kg | 55 lbs filler components into the mixing tub and start the mixing process. Whilst mixing, slowly add the separately packaged 1.8 kg | 4.0 lbs resin/hardener component completely into the mixture. After mixing for 3 minutes add 2 litres | 0.53 gal of water. To do this, fill up the two previously emptied resin/hardener bottles with 1 litres | 0.26 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. Continue mixing well for at least 3 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.

Application: Apply the mixed pavement jointing mortar onto the well moistened surface and work it carefully into the joints using a squeegee/rubber slider. The mortar is poured out at three or four spots within the jointing area in order to make best use of the fluidity of the pavement jointing mortar. If the ready mixed mortar is not used up straight away, before continuing with application and remaining within the stated application time, mix the remaining mortar through again briefly to ensure it has optimum flow capability. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.

Final cleaning: After approx. 10–15 minutes the excess mortar on the surface of the stones can be swept off carefully with a large, coarse broom. Then use a soft, hair broom to do a final cleaning until all residual mortar has been removed from the surface. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. The correct moment for sweeping, is when white smears no longer form on the stone surface during sweeping. Sweeping should be done diagonally to the joint. Do not reuse swept off material.

Subsequent treatment: Rain protection is not necessary during drizzle. In case of permanent or heavy rain, the freshly jointed surface should be protected for 12–24 hours. Do not put the rain protection directly onto the surface, to ensure air circulation.

Important note - resin film: During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. A resin film does not constitute an "application fault" and the quality of the surface is not compromised in any way. For further information please take note of the ROMEX® compendium.

TECHNICAL DATA

Test report no. 55-2909/04 CPH-7134-DRAIN-PLUS, audited colour „neutral", goods in bags.		
System	2-component epoxy resin pavement jointing mortar	
Compressive strength	24.1 N/mm² | 3 495 psi Laboratory value 9.5 N/mm² | 1 378 psi Building site value	DIN 18555 part 3
Bending tensile strength	8.1 N/mm² | 1 175 psi Laboratory value 3.0 N/mm² | 435 psi Building site value	DIN 18555 part 3
Static elasticity module	2 640 N/mm² | 382 900 psi Laboratory value 1 610 N/mm² | 23 511 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.64 kg/dm³ | 0.95 oz/in³ Laboratory value 1.29 kg/dm³ | 0.75 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, At high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability coefficient*	4.91 × 10⁻³ m/s ≙ approx. 15 l/min/m² for a joint fraction of 10 % 695.9 iph ≙ approx. 0.37 gal/min/sqft for a joint fraction of 10 %	
Storage life	24 months	
Storage	resin/hardener components: frostfree, filler components: dry	

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 30 mm | 1 1/4" / joint width Ø 8 mm | 3/8"							
Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2" × 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2" × 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	5 mm | 1/4" (min.)	0,7 kg 1.6 lbs	0,7 kg 1.4 lbs	1,0 kg 2.1 lbs	1,4 kg 3.1 lbs	2,0 kg 4.3 lbs	3,7 kg 8.0 lbs
	10 mm | 3/8"	1,0 kg 2.1 lbs	1,3 kg 2.8 lbs	1,9 kg 4.2 lbs	2,7 kg 6.0 lbs	3,8 kg 8.3 lbs	6,6 kg 14.6 lbs
	Polygonal slabs	We recommend ROMPOX® - D1					

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - D1

The proven pavement jointing mortar

Our proven 2-component pavement jointing mortar ROMPOX® - D1 is a real allrounder. Thanks to it's strong pouring capacity, it can be used for joint widths from 3 mm | 1/8". That makes D1 ideal for jointing polygonal slabs and crazy paving, that are often difficult to joint because of uneven edges and often conical running joints. This pavement jointing mortar can be used without problem in driveways and entryways, as it can withstand loads of up to 7.5 tons. ROMPOX® - D1 is also very good for use in repairing old paved stoned surfaces around the house.

Properties

- joint widths from 3 mm | 1/8"
- joint depths from 30 mm | 1 1/4"
- ideal for polygonal slabs
- best flow capability
- self compacting
- water emulsifiable
- frost and de-icing salt resistant
- highly water-permeable
- no cement residue


neutral


stone grey


basalt


no weed growth


pressure washer use


firm to walk on

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4" (in case of traffic loads 2/3 of stone height, minimum joint width 3 mm | 1/8"). With a slab thickness less than 30 mm, bonded laying methods should be used and the whole joint filled completely with ROMPOX® - D1. The surface to be joint-fixed should be cleaned of all impurities before work commences. Adjoining surfaces that are not to be joint-fixed are taped off.

Pre-wetting: Pre-wet the surface. Porous surfaces as well as higher surface temperatures, require more intense pre-wetting.

Mixing bags: Pour the 25 kg | 55 lbs filler components into the mixing tub and start the mixing process. Whilst mixing, slowly add the separately packaged 2.5 kg | 5.5 lbs resin/hardener component completely into the mixture. In order to fully use the contents of the bottle, both bottles should be rinsed with water. To do this, fill up the two previously emptied resin / hardener bottles with 0.5 litres | 0.13 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. After mixing for 3 minutes add 3 litres | 0.8 gal of water and continue mixing well for at least 3 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.
Mixing buckets: Open the bucket, open bottles within and pour the contents completely into the filler material component. In order to fully use the contents of the bottle, both bottles should be rinsed with water. To do this, fill up the two previously emptied resin/hardener bottles with 250 ml | 0.13 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. Start the mixing process. Do not add water! Total mixing time: at least 6 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.

Application: Apply the mixed pavement jointing mortar onto the well moistened surface and work it carefully into the joints using a squeegee/rubber slider. The mortar is poured out at three or four spots within the jointing area in order to make best use of the fluidity of the pavement jointing mortar. If the ready mixed mortar is not used up straight away, before continuing with application and remaining within the stated application time, mix the remaining mortar through again briefly to ensure it has optimum flow capability. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.

Final cleaning: After approx. 10–15 minutes the excess mortar on the surface of the stones can be swept off carefully with a large, coarse broom. Then use a soft, hair broom to do a final cleaning until all residual mortar has been removed from the surface. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. The correct moment for sweeping, is when white smears no longer form on the stone surface during sweeping. Sweeping should be done diagonally to the joint. Do not reuse swept off material.

Subsequent treatment: The freshly jointed surface needs to be protected against rain for the next 12–24 hours. The rain protection layer must not be laid directly onto the paved surface, to ensure sufficient air circulation.

Important note - resin film: During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. A resin film does not constitute an „application fault" and the quality of the surface is not compromised in any way. For further information please take note of the ROMEX® compendium.

TECHNICAL DATA

Test report, audited colour „neutral", goods in bags		
System	2-component epoxy resin pavement jointing mortar	
Compression strength	25.8 N/mm² | 3 742 psi Laboratory value 16.6 N/mm² | 2 408 psi Building site value	DIN 18555 part 3
Bending tensile strength	12.0 N/mm² | 1 740 psi Laboratory value 7.9 N/mm² | 1 145 psi Building site value	DIN 18555 part 3
Static elasticity module	8 000 N/mm² | 1 160 302 psi Laboratory value 2 180 N/mm² | 316 182 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.68 kg/dm³ | 0.97 oz/in³ Laboratory value 1.43 kg/dm³ | 0.83 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability coefficient*	7.5 × 10⁻⁴ m/s ≙ approx. 2.3 l/min/m² for a joint fraction of 10 % 106.2 iph ≙ approx. 0.06 gal/min/sqft for a joint fraction of 10 %	
Storage life	24 months	
Storage	resin/hardener components: frostfree, filler components: dry	

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 30 mm | 1 1/4"							
Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2"× 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2"× 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	3 mm | 1/8" (min.)	0,5 kg 1.1 lbs	0,4 kg 1.0 lbs	0,7 kg 1.4 lbs	1,0 kg 2.1 lbs	1,3 kg 3.0 lbs	2,5 kg 5.6 lbs
	10 mm | 3/8"	1,6 kg 3.5 lbs	1,4 kg 3.2 lbs	2,1 kg 4.6 lbs	3,0 kg 6.6 lbs	4,2 kg 9.2 lbs	7,4 kg 16.2 lbs
	Polygonal slabs	approx. 4–6 kg | 8–13 lbs					

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

Products pre-packed in PCR bucket*

The advantages lie with the ease of use

Six good reasons for PCR buckets

1. **Handiness** – mixing can hardly be more practical. You can mix the jointing mortar directly on site in the bucket. It is thus easier to distribute on the surface.

2. **Packaging** – A further plus is the stability of the packaging. Ripped open paper bags are a thing of the past, as well as paper bags that have become damaged by moisture. Buckets can also occasionally be left out in the rain.

3. **Re-using** – After use, the bucket can still be used for whatever purpose you choose. Clean the bucket with water first.

4. **Avoid mixing mistakes** – Everything you need is in front of you. A clean bucket for mixing, the sand, resin and hardener as well as flow agent, which is already added to the sand.

5. **Cleanliness –** A clean container for mixing prevents, amongst other things, colour deviations, that may arise from using a dirty mixer.

6. **Time saving** – After using a mixer it needs to be cleaned of all resin which may otherwise stick permanently. This time can be saved.

Time saving:
open bucket, add resin and hardener, mix – ready to go!

These products are all available in practical buckets:

ROMPOX® - ECOFINE
ROMPOX® - EASY
ROMPOX® - DRAIN
ROMPOX® - D1
ROMPOX® - D4000
ROMPOX® - D4000 HR
ISATEC® - FLEX

+ + + NEW AS OF 2022 + + +

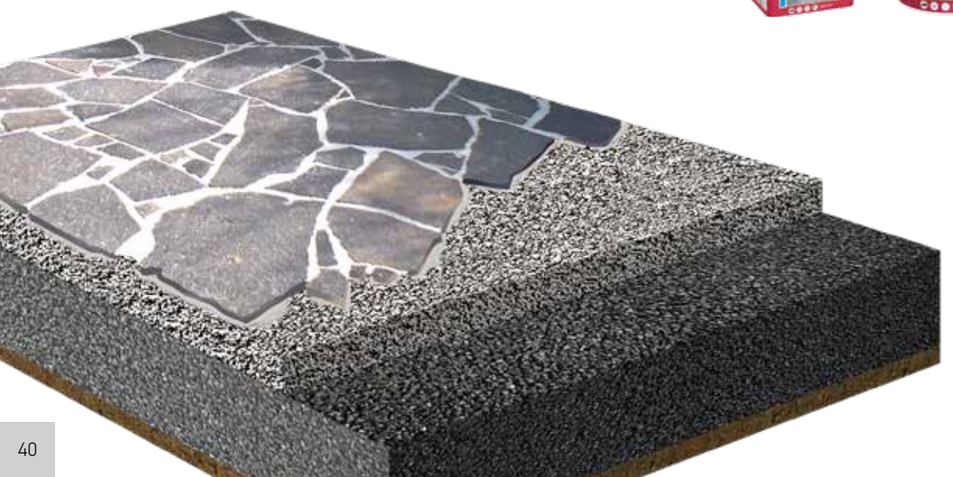
* Thanks to our cooperation with the environmental service provider Interseroh, most of our packaging remains in the material cycle through high-quality recycling. We are gradually switching to packaging made of recycled plastic for all products. After the pilot project ROMPOX® - ECOFINE, the products ROMPOX® - EASY and ISATEC® - FLEX in the 97 % PCR bucket will follow in 2022. In contrast to many supposed recycled plastics, this post-consumer recyclate (PCR for short) does not consist of leftovers from industrial production, but of "real" recycled outer packaging that is recycled from the yellow bin or deposit machines, for example.

POLYGONAL SLABS

Polygonal slabs have been very popular for years. Their natural, rustic form ensures a welcoming, Mediterranean flair in the garden. The special features of irregular shapes and broken edges require special care when laying. One reason for this is the different slab thicknesses between 2-6 cm and the usually conical gradient form, which means bonded laying construction with the right system is a basic requirement for a durable, stable surface. For lasting outdoor use, the polygonal slabs need to be laid on a bonded construction that is water permeable and jointed with strong jointing mortar.

As an optimal system we recommend:

- ROMPOX® - TRASS-BED | COMPOUND with ADHESION ELUTRIANT
- ROMPOX® - D1



COATED STONE SURFACES

Many concrete blocks as well as more and more natural stone coverings are factory coated. These coatings are supposed to protect the stone surface against dirt and color fading and prevent algae / moss formation. Depending on the type of coating, this can react in rare cases with some synthetic resins and lead to stains or sandy surfaces. Preliminary tests are therefore always advisable. When choosing the paving mortar, make sure it doesn't leave a synthetic resin film and that it harmonizes with the coating. We guarantee that our recommended products for coated stone coverings can be used without hesitation.

As an optimal system we recommend:

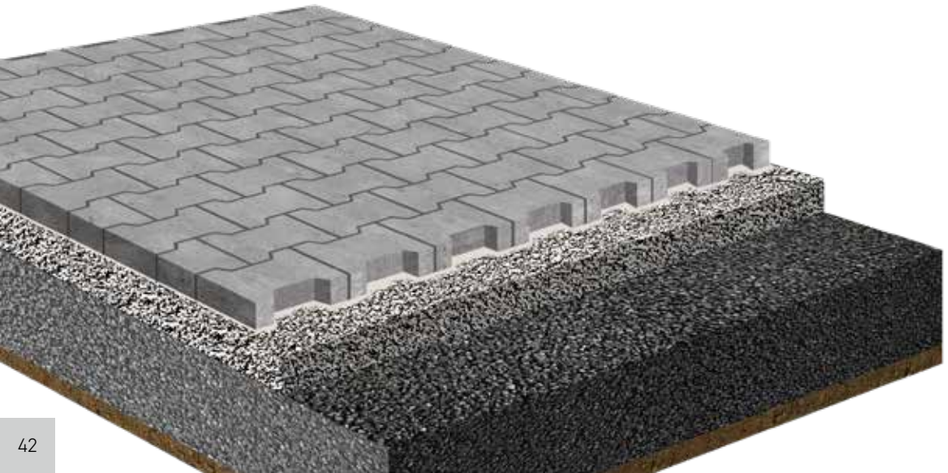
- ROMPOX® - TRASS-BED | COMPOUND with ADHESION ELUTRIANT
- ROMPOX® - EASY
- ROMPOX® - ECOFINE
- ROMPOX® - JOINTING SAND NP (in unbonded construction)

INTERLOCKING STONE PAVING STONES

Interlocking stone paving stones are often laid in unbonded form in driveways. But also on house parking spaces, garden paths and terraces you can see this sturdy, durable paving stone surface. Not least because of its timeless design. There is one disadvantage, however: The narrow joints are not ideal for use with conventional pavement jointing mortar, so that weeds often grown through the joint. To prevent this and to ensure a permanently weed-free area, there is only one efficient way which is to incorporate unbonded ROMPOX® - JOINTING SAND NP and for areas with heavy loads (drip edges, slopes) also use ROMPOX® - JOINT STRENGTHENER. The combination of both products combine their respective advantages. The weed-inhibiting joint sand can already be used from 1 mm, so that the joints are completely filled. The joint strengthener ensures the necessary and lasting stability.

As an optimal system we recommend:

- ROMPOX® - JOINTING SAND NP combined with ROMPOX® - JOINT STRENGTHENER



CERAMIC TILES

Ceramic tiles, tiles in natural stone or wood look and high quality natural stone coverings are fully on trend. Because ceramics are, in contrast to concrete and natural stone, colorfast, scratch resistant and less sensitive to dirt. Professional, bonded laying with the right system is the basic requirement for a durable covering that withstands all weather conditions. Because ceramic tiles are on average 2 cm thick, these are laid for permanent outdoor use and are water permeable. In addition movement joints should be laid.

It should always be avoided that the ROMPOX® - ADHESION ELUTRIANT "swells out" on the slab side during installation, as otherwise the joint will be sealed at these points. This can be avoided by scraping off the adhesive slurry approx. 5 cm from the edge of the slab with a trowel. This is also described in the current ATV DIN 18318.

As an optimal system we recommend:

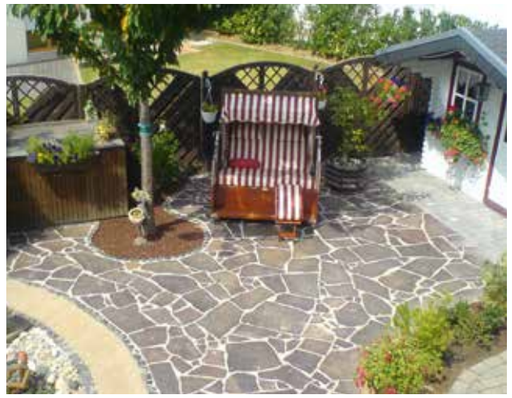
- ROMPOX® - TRASS-BED | COMPOUND with ADHESION ELUTRIANT
- ROMPOX® - ECOFINE
- ROMPOX® - D1

ROMEX®- recommends: ROMPOX® - D1

Polygonal and crazy paving

Polygonal slabs made of sandstone, limestone, granite, quarzite, gneiss or slate, also called broken slabs, have for years been the favourite materials for making surface coverings and are particularly suitable for making patios and garden pathways as well as directly next to the house. Ideally the slabs are laid into earth damp, drainage capable trass cement gravel / grit-bed (i.e. ROMPOX® - TRASS-BED). The underside should be treated with an adhesion elutriant (i.e. ROMPOX® - ADHESION ELUTRIANT), to ensure optimum adhesion with the foundation and avoid cracks in the joint area and loose slabs.

In the past, it was then usual for cement based jointing mass to be applied using a jointing tool and sponge, "on the knees", which is a complex, costly and not very effective solution. Cheaper, polygonal broken stone slabs often only have a slab strength of 1–4 cm | 3/8"–1 1/2" – if the bed is only 1/3 of the height of the stone, then the required 3 cm | 1 1/4" joint depth for synthetic resin paving jointing mortar is no longer given. If slabs are to be laid, that are below 4 cm | 1 1/2" strength, then there is only one way to ensure permanent laying: 1. a bonded bed – ideally water permeable, 2. for joint depths below 3 cm | 1 1/4", use our 2 component paving jointing mortar ROMPOX®-D1 – which guarantees very good joint adhesion between stone surface and bed, with more flat joints.



Case Study

140 m² | 1 507 sq ft of high-quality ALTA quarzite slabs

Swedish star architect's holiday home

This is worth it!

on the terrace of the weekend villa were jointed using approx. **168 kg | 371 lbs of ROMEX® pavement jointing mortar**. That is equal to a consumption of approx. **1.2 kg | 2.65 lbs** per square metre!

Two landscapers needed **two 8 hour days**, so **16 working hours** to joint **140 m² | 1 507 sq ft**. Each square metre only needs an average of 7 minutes jointing time!

Summary:

Not even 7 minutes and just **a good kg per square metre**! Thus leaving more time to appreciate the good results and more money in your pocket.

- ✓ Quick
- ✓ Cost effective
- ✓ Visually attractive

ROMPOX® - JOINT STRENGTHENER

For the strengthening of sand joints

ROMPOX® - JOINT STRENGTHENER is a 1-component special liquid used to joint sand joints and especially for coated concrete and natural stone stones as well as clinker surfaces. Our joint strengthener protects against washing out, sanding off and weed growth. It has high strength and viscous elasticity which is particularly advantageous for use on unbonded construction. Because it is liquid, joints with a minimum width of 1 mm | 1/16", which have been filled with paving sands, can be easily strengthened. This product is recommended in areas with pedestrian loads.

transparent

Properties

- for joint widths from 1 mm | 1/16"
- repairs cracks in paved stone joints
- especially for coated concrete stone slabs
- easy to use
- also for DIY
- frost and de-icing salt resistant
- no cement haze / residue

BEST IN CLASS!
PREMIUM SAND STRENGTHENING

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4". The surface to be joint-fixed should be cleaned of all impurities before work commences. Adjoining surfaces that are not to be joint-fixed are taped off. Fill joints with dry filler material (quartz sand or crushed sand/gravel mixture with grainsize grading curve 0,3–1,2 mm | 1/8" – 1/2"). Then sweep off so that the stone surface is free of any sand residue.

Application <u>WITH</u> colour enhancement:
Apply the contents of the bottle with a sprayer (tree or garden sprayer) or watering can until the joints are saturated. Immediately remove the excess thoroughly with a double-lipped rubber squeegee. Any residue on the stone surface should be removed immediately using a wet sponge or towel. During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. Porous surfaces as well as higher surface temperatures increase consumption.

Application <u>WITHOUT</u> colour enhancement:
Apply the contents of the bottle with a sprayer only onto the joints until they are saturated. Any residue on the stone surface should be removed immediately using a wet sponge or towel.

Subsequent treatment: The freshly jointed surface needs to be protected against rain for the next 48 hours. The rain protection layer must not be laid directly onto the paved surface, to ensure sufficient air circulation.

Important information: Settling of the surface as well as loose stones, especially with unbonded construction, can cause cracks in the joint. This visual defect can be eliminated simply by refilling with the product and re-applying ROMPOX® - JOINT STRENGTHENER. For coated concrete slabs and sensitive types of stone, only the joints must be worked on. Check "Application without colour enhancement"!

TECHNICAL DATA

System	1-component special liquid	
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 7 °C up to max. 30 °C | > 44,6 °F up to max. 86 °F At lower temperatures slow hardening, At high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 48 hours can be walked on, after 6 days fully load bearing	
Storage life	12 months	
Storage	store the containers frostfree and protect them against direct sunlight	

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 30 mm | 1 1/4" / joint width Ø 3 mm | 1/8"

Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2" × 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2" × 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
3 mm | 1/8"		0.1–0.2 0.02–0.04	0.1–0.2 0.02–0.04	0.1–0.2 0.02–0.04	0.2–0.4 0.04–0.08	0.25–0.5 0.05–0.10	0.4–0.8 0.08–0.16

! for light, occasional vehicle loads, on settling-free, water permeable bed

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

ROMPOX® - D7000

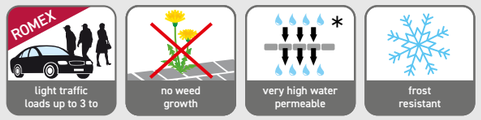
The stabilizing liquid for paving

For the quick and uncomplicated strengthening of road surfaces with sufficient fine particles (e.g. water-bound road surfaces), especially for protection against washing out, abrasion, weed growth and dust control. ROMPOX® - D7000 strengthens existing road surfaces and protects especially against erosion on downhill gradients. Through the use of ROMPOX® - D7000 the stability of the coating is greatly improved and thus the maintenance costs are reduced. The areas of application go from private areas in the garden and around the house to public areas such as park paths, foot and bike paths and tree surrounds.

Properties

- for garden paths as well as public areas (e.g. water-bound path surfaces)
- extra strong formula
- reduces surface abrasion and dust formation
- reduces maintenance costs
- minimizes weed growth
- reduces erosion on slopes with heavy rainfall

THE EXTRA STRONG, FLEXIBLE POLYMER LIQUID



APPLICATION

Construction site requirements: The subsurface should be well compacted. The applicable regulations and information sheets are to be observed. Subsequent loads must not cause the surface to settle. When using the product with road surfaces, the FLL technical report on planning, construction and maintenance of water-bound road surfaces must be observed.

Preparation: The pathway to be strengthened should be permeable to water so that the liquid can penetrate deep enough into the surface. After application the covering basically remains just as permeable to water as before application. For topcoat strengthening ideally, broken sand / stone mixtures from 0/4 to 0/8 mm are used. **Important:** The fine / dust fraction <0.08 mm should be at least 15% so that the desired bond is achieved. Grit and gravel mixtures without sufficient fine / dust content are not bound sufficiently. Adjacent areas that cannot be strengthened are taped off.

Pre-wetting: Prewet the surface to be strengthened with water. Porous surfaces as well as higher surface temperatures, require more intense prewetting. Avoid puddle formation.

Application: Pour the contents of the canister into a watering can with an inclined spray attachment and pour evenly over the pre-wet surface. After about 15–20 minutes the liquid is absorbed into the surface and the white liquid is no longer visible. Then spread the covering evenly using rollers or levels, if necessary also using a vibrating plate.

Recommended consumption: approx. 2 litres / sqm

PROFESSIONAL TIP: Surfaces subject to very heavy use should after hardening, be treated again with ROMPOX® - D7000 using a sprayer (e.g. tree or garden sprayer), watering can or a fur roller as a sealant on the surface of the covering. This process gives an even better surface strength. Resealing requirements: approx. 500–750 ml / square meter. This process has to be repeated every 3 years on average or as soon as stones start to come off the surface.

Subsequent treatment: The freshly treated area must be protected against rain for 48 hours. The rain protection should not be placed directly onto the surface so that air can circulate.

Important information: Grit and gravel mixtures without sufficient fine / dust content will not sufficiently bind. In case of doubt, we recommend creating a sample area. At work, the use of impervious and durable protective gloves, tight-fitting goggles and protective work clothing is recommended. Regularly remove water-storing moss, leaves and weeds from the surface. As with all bonded path coverings, stones can come off. This is in the nature of the matter and is not a defect.

TECHNICAL DATA

System	1-component special liquid	
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 7 °C up to max. 30 °C | > 44.6 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 48 hours can be walked on, after 6 days fully load bearing	
Water permeability*	After application the covering basically remains just as permeable to water as before application	
Storage life	min. 12 months	
Storage	frostfree, (protect container against direct sunlight)	

1 canister is sufficient for approx. 10 m² **Consumption:** approx. 2 litres per square meter

GENERAL NOTES

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Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Public
Systems for
the public sector

Using ROMEX® pavement jointing mortars,

all types of paved stone surface and slabs in various areas
can be jointed quickly and easily.

Roads

Squares

Footpaths

Roundabouts

Traffic islands

Gutters

The quick and easy to apply products offer numerous advantages, especially for use in innercities. With our pavement jointing mortar for various traffic loads, it is no longer a problem to joint paving stones and slab surfaces cleanly and permanently. Put an end to frost damage of cement joints. Prevent street sweepers from sweeping out loose jointing material with high repair costs when re-filling with gravel or sand. Help prevent accidents when women in high heels get stuck in empty joints. The combination of joints and our patented displacement protection system offers towns and communities numerous solutions which are permanent and help to save costs by preventing displacement on surfaces.

ROMPOX® - D2000

The modern pavement jointing mortar

The modern 2-component pavement jointing mortar ROMPOX® - D2000 is for public surfaces that have heavy traffic loads. Thanks to it's strong pouring capacity, it can be used for joint widths from 5 mm | 1/4". D2000 is suitable for use with new jointing on squares, roads and paths as well as for the repair of existing paved stone surfaces as well as gutter mortar according to ATV DIN 18318:2019. In particular the quick re-opening to traffic makes this pavement jointing mortar special.


neutral


stone grey


basalt

Properties

- joint widths from 5 mm | 1/4"
- joint depths from 30 mm | 1 1/4"
- sweeper-proof
- quick re-opening to traffic
- can be applied during drizzle
- self compacting
- water emulsifiable
- frost and de-icing salt resistant
- water permeable
- no cement haze / residue

medium to heavy up to 25 to


no weed growth


pressure washer use


firm to walk on

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4" (in case of traffic loads 2/3 of stone height, minimum joint width 5 mm | 1/4"). The surface to be joint-fixed should be cleaned of all impurities before work commences. Adjoining surfaces that are not to be joint-fixed are taped off.

Pre-wetting: Pre-wet the surface. Porous surfaces as well as higher surface temperatures, require more intense pre-wetting.

Mixing: Pour the 25 kg | 55 lbs filler components into the mixing tub and start the mixing process. Whilst mixing, slowly add the separately packaged 2.5 kg | 5.5 lbs resin/hardener component completely into the mixture. In order to fully use the contents of the bottle, both bottles should be rinsed with water. To do this, fill up the two previously emptied resin / hardener bottles with 0.5 litres | 0.13 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. After mixing for 3 minutes add 2 litres | 0.53 gal of water and continue mixing well for at least 3 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.

Application: Apply the mixed pavement jointing mortar onto the well moistened surface and work it carefully into the joints using a squeegee/rubber slider. The mortar is poured out at three or four spots within the jointing area in order to make best use of the fluidity of the pavement jointing mortar. If the ready mixed mortar is not used up straight away, before continuing with application and remaining within the stated application time, mix the remaining mortar through again briefly to ensure it has optimum flow capability. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.

Final cleaning: After approx. 10 minutes the excess mortar on the surface of the stones can be swept off carefully with a large, coarse broom. Then use a soft, hair broom to do a final cleaning until all residual mortar has been removed from the surface. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. The correct moment for sweeping, is when white smears no longer form on the stone surface during sweeping. Sweeping should be done diagonally to the joint. Do not reuse swept off material.

Subsequent treatment: Rain protection is not necessary during drizzle. In case of permanent or heavy rain, the freshly jointed surface should be protected for 12–24 hours. Do not put the rain protection directly onto the surface, to ensure air circulation.

Important note - resin film: During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. A resin film does not constitute an "application fault" and the quality of the surface is not compromised in any way. For further information please take note of the ROMEX® compendium.

TECHNICAL DATA

Test report no. 55-2909/04 CPH-7134-D2000, audited colour „neutral", goods in bags.		
System	2-component epoxy resin pavement jointing mortar	
Compressive strength	51.9 N/mm² | 7 528 psi Laboratory value 24.2 N/mm² | 3 510 psi Building site value	DIN 18555 part 3
Bending tensile strength	15.4 N/mm² | 2 234 psi Laboratory value 9.0 N/mm² | 1 305 psi Building site value	DIN 18555 part 3
Static elasticity module	11 200 N/mm² | 1 624 421 psi Laboratory value 2 390 N/mm² | 346 640 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.76 kg/dm³ | 1.02 oz/in³ Laboratory value 1.65 kg/dm³ | 0.95 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	15–20 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, At high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 6 hours can be walked on, after 24 hours fully load bearing	
Water permeability coefficient*	9.06×10^{-6} m/s ≙ approx. 0.03 l/min/m² for a joint fraction of 10 % 1.3 iph ≙ approx. 0.0007 gal/min/sqft for a joint fraction of 10 % (with appropriate compacting)	
Storage life	24 months	
Storage	resin/hardener components: frostfree, filler components: dry	

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 30 mm | 1 1/4"							
Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2" × 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2" × 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	5 mm | 1/4"(min.)	0,9 kg 2.1 lbs	0,8 kg 1.9 lbs	1,2 kg 2.7 lbs	1,8 kg 3.9 lbs	2,5 kg 5.6 lbs	4,7 kg 10.3 lbs
	10 mm | 3/8"	1,8 kg 4.1 lbs	1,6 kg 3.6 lbs	2,4 kg 5.4 lbs	3,5 kg 7.6 lbs	4,8 kg 10.6 lbs	8,5 kg 18.7 lbs
	Polygonal slabs	approx. 4–6 kg | 8–13 lbs					

! joint depth in case of traffic loads 2/3 of stone height

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

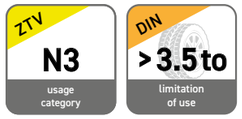
Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - D3000

The repair paving stone joint elutriant

Using paving stone joint elutriant ROMPOX® - D3000 old, damaged cement joints on paths, roads and town squares can be quickly and easily repaired. Only the damaged joints need to be cleaned out. Intact cement joints remain on the surface. The paving stone elutriant has such strong edge adhesion that it "connects" to the old joint. ROMPOX® - D3000 will not act as a preventive for any old cement on the surface becoming damaged in the future.



Properties

- joint crack widths from 3 mm | 1/8"
- for joint crack depths from 10 mm | 3/8"
- suitable for the repair of damaged cement surfaces
- quick re-opening to traffic
- self compacting
- water emulsifiable
- frost and de-icing salt resistant
- highly water permeable
- no cement haze / residue

APPLICATION

Construction site requirements: The foundation is prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Must only be used on surfaces and subsurfaces that have settled and are movement free. Can otherwise lead to joint breakage and destruction of the joint. For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 10 mm | 3/8". Damaged joints and joint remains need to be completely removed. The surface to be joint-fixed should be cleaned of all impurities before work commences. Adjoining surfaces that are not to be joint-fixed are taped off. In case of porous surfaces, especially with cement joint repairs, it is recommended using a pre-primer. We are happy to advise you.

Pre-wetting: Pre-wet the surface. Porous surfaces as well as higher surface temperatures, require more intense pre-wetting. Avoid standing water in the joints.

Mixing: Pour the 25 kg | 55 lbs filler components into the mixing tub and start the mixing process. Whilst mixing, slowly add the separately packaged 2.5 kg | 5.5 lbs resin/hardener component completely into the mixture. In order to fully use the contents of the bottle, both bottles should be rinsed with water. To do this, fill up the two previously emptied resin / hardener bottles with 0.5 litres | 0.13 gal of water, close, shake vigorously and add the contents of the bottle to the mixture. After mixing for 3 minutes add 2 litres | 0.53 gal of water and continue mixing well for at least 3 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.

Application: Apply the mixed pavement jointing mortar onto the well moistened surface and work it carefully into the joints using a squeegee/rubber slider. The mortar is poured out at three or four spots within the jointing area in order to make best use of the fluidity of the pavement jointing mortar. If the ready mixed mortar is not used up straight away, before continuing with application and remaining within the stated application time, mix the remaining mortar through again briefly to ensure it has optimum flow capability. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.

Final cleaning: After approx. 10 minutes the excess mortar on the surface of the stones can be swept off carefully with a large, coarse broom. Then use a soft, hair broom to do a final cleaning until all residual mortar has been removed from the surface. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. The correct moment for sweeping, is when white smears no longer form on the stone surface during sweeping. Sweeping should be done diagonally to the joint.

Subsequent treatment: Rain protection is not necessary during drizzle. In case of permanent or heavy rain, the freshly jointed surface should be protected for 12–24 hours. Do not put the rain protection directly onto the surface, to ensure air circulation.

Important note - resin film: During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. A resin film does not constitute an "application fault" and the quality of the surface is not compromised in any way. For further information please take note of the ROMEX® compendium.

TECHNICAL DATA

Test report 13417/D3000; audited colour „neutral", goods in bags.		
System	2-component epoxy resin pavement jointing mortar	
Compressive strength	34.5 N/mm² | 5 003 psi Laboratory value 19.4 N/mm² | 2 813 psi Building site value	DIN EN 1015-11:2007-05
Bending tensile strength	12.2 N/mm² | 1 769 psi Laboratory value 7.6 N/mm² | 1 102 psi Building site value	DIN EN 1015-11:2007-05
Static elasticity module	7 800 N/mm² | 1 131 294 psi Laboratory value 4 000 N/mm² | 580 151 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.68 kg/dm³ | 0.97 oz/in³ Laboratory value 1.41 kg/dm³ | 0.82 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	15–20 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 12–24 hours can be walked on, after 3 days fully load bearing	
Water permeability coefficient*	7.5 × 10⁻⁴ m/s ≙ approx. 2.3 l/min/m² for a joint fraction of 10 % 106.3 iph ≙ approx. 0.06 gal/min/sqft for a joint fraction of 10 % (with appropriate compacting)	
Storage life	24 months	
Storage	resin/hardener components: frostfree, filler components: dry	

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 10 mm | 3/8"							
Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2" × 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2" × 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	3 mm | 1/8" (min.)	0,5 kg 1.1 lbs	0,4 kg 0.9 lbs	0,6 kg 1.4 lbs	0,9 kg 2.1 lbs	1,3 kg 2.9 lbs	2,5 kg 5.5 lbs
	10 mm | 3/8"	1,6 kg 3.5 lbs	1,4 kg 3.1 lbs	2,1 kg 4.6 lbs	3,0 kg 6.5 lbs	4,1 kg 9.0 lbs	7,3 kg 16.0 lbs
	Polygonal slabs	approx. 1–3 kg | 2.2–6.6 lbs					

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - TRAFFIC V2

The hardest pavement jointing mortar

ROMPOX® - TRAFFIC V2 is the strongest ROMEX® pavement jointing mortar for heaviest traffic loads in the public sector. V2 is used to carry out new jointing in road and town square construction, that is subject to heavy loads, but also as gutter mortar according to ATV DIN 18318:2019.

Properties

- joint widths from 8 mm | 3/8"
- joint depths from 30 mm | 1 1/4"
- sweeper-proof
- high strength
- frost and de-icing salt resistant
- water permeable
- no cement haze / residue

APPLICATION

Construction site requirements: The surface should be prepared according to the expected traffic loads. The regulations and leaflets for the manufacture of paved surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: Clean out joints to a depth of at least 30 mm | 1 1/4 "(in case of traffic loads 2/3 of stone height, minimum joint width 8 mm | 3/8"). The surface to be jointed should be cleaned of all impurities before work commences. Adjacent surfaces that are not to be jointed must be taped off to avoid resin contact.

Mixing: Pour the 25 kg | 55 lbs filler components into the mixing tub and start the mixing process. Whilst mixing, slowly add the separately packaged 3.0 kg | 6.6 lbs resin/hardener component completely into the mixture. Do not add water! Total mixing time: at least 6 minutes. Use professional agitator or rotary-drum mixer / compulsory mixer.

Application: Apply the mixed pavement jointing mortar onto the surface and roughly distribute it using a spade or metal slider. Subsequently, work the pavement jointing mortar into the joints using a rubber squeegee, ensuring it compacts deep into the joints and fills them completely. All tools as well as work shoes should be regularly cleaned with a water spray during jointing, to avoid impurities by binding agent and footprints on the stone surface.

Final cleaning: Immediately after application sweep the stone surface carefully with a coarse street broom. Then use a soft hair broom to do a final cleaning until all residual mortar has been removed from the surface. Chamfered edges on slabs and clinker surfaces must be exposed, as sufficient adhesion in this area cannot be guaranteed. Sweeping should be done diagonally to the joint. Do not re-use swept off material.

Subsequent treatment: Rain protection is not necessary during drizzle. In case of permanent or heavy rain, the freshly jointed surface should be protected for 12–24 hours. Do not put the rain protection directly onto the surface, to ensure air circulation.

Important note - resin film: During the initial period a very thin film of epoxy resin remains on the stone surface and intensifies the colour of the stone and protects it from dirt. The resin film is temporary and will disappear over time due to weathering and abrasion. In case of uncertainty, a sample surface should be tested before the entire jointing is done. A resin film does not constitute an "application fault" and the quality of the surface is not compromised in any way. For further information please take note of the ROMEX® compendium.

TECHNICAL DATA

Test report no. 55-2909/04 CPH-7134, audited colour "neutral", goods in bags.		
System	2-component epoxy resin pavement jointing mortar	
Compressive strength	76.8 N/mm² | 11 139 psi Laboratory value 52.5 N/mm² | 7 615 psi Building site value	DIN 18555 part 3
Bending tensile strength	22.2 N/mm² | 3 220 psi Laboratory value 13.6 N/mm² | 1 973 psi Building site value	DIN 18555 part 3
Static elasticity module	12 200 N/mm² | 1 769 461 psi Laboratory value 9 800 N/mm² | 1 421 370 psi Building site value	DIN 18555 part 4
Hard mortar raw density	1.83 kg/dm³ | 1.06 oz/in³ Laboratory value 1.71 kg/dm³ | 0.99 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	15–20 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 12–24 hours can be walked on, after 3 days fully load bearing	
Water permeability coefficient*	4.78 × 10⁻⁶ m/s ≙ approx. 0,015 l/min/m² for a joint fraction of 10 % 0.7 iph ≙ approx. 0.0004 gal/min/sqft for a joint fraction of 10 % (with appropriate compacting)	
Storage life	24 months	
Storage	resin/hardener components: frostfree, filler components: dry	

Consumption table in kg/m² | lb/sq ft - Basis of calculation: joint depth Ø 30 mm | 1 1/4"							
Joint width	Stone size	80 × 40 cm 31 1/2" × 15 3/4"	60 × 60 cm 23 1/2" × 23 1/2"	40 × 40 cm 15 3/4" × 15 3/4"	32 × 24 cm 12 1/2" × 9 1/2"	24 × 16 cm 9 1/2" × 6 1/4"	9 × 11 cm 3/8" × 3/8"
	8 mm | 3/8" (min.)	1,5 kg 3.4 lbs	1,4 kg 3.0 lbs	2,0 kg 4.5 lbs	2,9 kg 6.4 lbs	4,1 kg 9.0 lbs	7,3 kg 16.1 lbs
	10 mm | 3/8"	1,9 kg 4.2 lbs	1,7 kg 3.7 lbs	2,5 kg 5.5 lbs	3,6 kg 7.9 lbs	5,0 kg 11.0 lbs	8,8 kg 19.4 lbs
	Polygonal slabs	approx. 4–6 kg | 8–13 lbs					

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

Repair of broken cement and old joints

Repairs with ROMPOX® - D3000 and ROMPOX® - D2000

The most commonly planned regulation construction methods are carried out as unbonded or open construction methods according to DIN 18318. Due to ever increasing traffic loads, delivery traffic, weekend and christmas markets, extreme weather effects and the effect of paved stone cleaning using vacuum sweeping machines, the joints disappear and erosion of the entire paved stone surface commences. Each period of frost causes hydraulically bound joints to have weak areas which crack and break out. Longterm the result is empty joints, dislodged paving stones and a damaged surface. A major problem in this, is that the surface becomes dangerous to walk on and the risk of accidents for residents and tourists increases.

This means that maintenance and repair costs for towns and communities are significant. Until now, the possibilities for repairing old paved stone surfaces were limited. Depending on use and degree of damage on the paved stone surface, usually the only way was a cost intensive new laying of the surface.

Communities are often faced with maintenance work that is almost impossible to manage on yearly budgets of just 30–70 cents per m² (3–7 cents per sq ft) and year. Another potential problem, is the liability that communities may face in case of accidents caused by non-jointed and unsafe paved stone surfaces. In addition the surfaces are affected by the intense loads of delivery vehicles and sweeping machines, a situation which was never taken into consideration at the time of planning these surfaces. As soon as weak areas have formed, action needs to be taken quickly because shear forces create a "domino effect" which destroys adjoining, still intact paved stones. Damaged joints must be repaired as quickly as possible.

Old joints can be repaired without taking up and re-laying the existing paving stones, if the paved stone surface is still suitable for walking and driving on, if the contractor is satisfied with the current state of the surface and the purpose of the repairs is to stabilise the paving stones.

Are the existing superstructure and substructure's suitable for repair?

"Fixed substructure – fixed superstructure" is a basic principle for jointing. Many years of practical experience have shown, that surfaces constructed in an unbonded way, that have been subjected to loads for at least four years, have finished with all settling processes. ROMEX® systems can be used on foundations made of sand, gravel or other filler materials. It is important that a) permanent loads existed which contributed to the settling process, b) there will be no change in the degree of loads expected on the surface and c) the entire setup was laid in a frost resistant manner.

In case of doubt regarding settling of the surface, a test surface should be laid. In order to get results that are reliable, choose an area of the surface that is subjected to high shear forces. A surface area of 100–200 m² | 1076.39–2152.78 sqft is usually sufficient. If the repaired surface remains intact over a period of at least 6 months, then work with ROMEX® systems can be carried out. If the joint doesn't hold and cracks and breakages appear, then ROMEX® would recommend against carrying out repairs.

Are the paving stones suitable for jointing?

In general, it is possible to joint all paving stone and slab joints that have joint widths of at least 3 mm | ⅛" with ROMEX® systems. Jointing will only close the joint, any uneveness in the surface will be not rectified. If the contractor is not happy with the existing state of the paved stone surface, then this needs to be re-laid until the surface is as desired. The paved stone and slab surface needs to have been laying for at least two years and show that the superstructure and substructure have completely settled. If settling or movements of the surface are to be expected, then jointing using ROMEX® pavement jointing mortars is not recommended. If there is no information available regarding the foundation of the paved stone surface, then it is recommended laying a test surface in an area of the surface that is highly trafficked and to observe it over a period of six months (whereby this time period should include a frost period). If during this test phase cracks and breakages appear on the sample surface, then it is recommended not carrying out repairs.

What needs to be heeded with regard to movement joints?

Existing expansion joints, laid during construction of the superstructure and substructure, should be incorporated into the joint fixing.

What needs to be heeded during cleaning of the joints and preparation?

When repairing existing paved stone joints, preparation consists of using a high pressure water jet or air pressure to achieve the required 30 mm | 1 ¼" joint depth (highly load bearing areas, at least ⅔ of the height of the stone). There is specialist equipment for removing old joints quickly, evenly and without spraying, your ROMEX®- Team is happy to advise you. After the joints have been blown clean, any litter, stone or cement residue that has got stuck, is removed by hand.

Furthermore, the stones to be jointed should be free of all soiling such as oils, grease and paint. Any left over weeds or roots need to be removed completely with tools or with flame/gas burners. In case individual paving stones wobble when walked on, then this means the joints have been cleared out too deeply. The paving stones need to be completely fixed or full joint bonded before jointing is carried out. Alternatively, the stone can be laid into a synthetic resin bed (wait 24 hrs until jointing) or cement foundation (wait 28 days until jointing). If the stone is not stabilised, this can lead to edge cracking, which in turn leads to further damage.

Repair of joints
from 5 mm | ¼" width and 30 mm | 1 ¼" depth using ROMPOX® - D2000

The width of the joint must be at least 5 mm | ¼", the depth at least 30 mm | 1 ¼". In case of traffic loads, the joint must be at least ⅔ of the height of the stone. In general, the deeper the joint mortar is laid, the more stable the entire construction will be. Please take note of the product data regarding application and technical properties.

Repair of damaged cement and old joints

Paving stone joint elutriant ROMPOX® - D3000 for repairs is suitable for the repair of joint cracks from 3 mm | ⅛" wide and 10 mm | ⅜" deep.

Using ROMPOX®- D3000 old cement joints can be re-worked and repaired. It can also be used to repair the narrowest joints and cracks in paved stone surfaces and with paving stones. The width of the joints must be at least 3 mm | ⅛", the depth at least 10 mm | ⅜". The requirement for permanent longevity of the system, is a superstructure and substructure that has completely settled. Please take note of the product data regarding application and technical properties.

What guarantee does ROMEX® give for the repair of old paving stones?

For the systems ROMPOX® - D2000 and ROMPOX® - D3000, ROMEX® will guarantee the longevity for five years, as long as the repairs were carried out according to ROMEX® construction regulations and a sample surface was laid beforehand which survived at least one winter without damage. Fine expansion cracks in the joint or on the edges of the stones can always occur but this has no negative effects on the usage properties and frost resistance of the surface.

Repair of old paved stones and new design of public and historic surfaces

Cleaning of old paved stone surfaces presents towns with an almost unsolvable problem. Due to heavy traffic loads, extreme weathering effects and cleaning of the paved stones using street sweepers, the jointing material disappears and erosion of the whole paved stone surface increases. Ensuing costs for the maintenance and repair of these surfaces can become very high for towns and communities. Another problem is the risk of accidents for pedestrians on damaged surfaces. Lack of stability in the joints, causes paved stones to dislodge and destroys the visual aspect of the whole surface. The building authorities are obligated to take matters into hand.

Over the years, each paved stone and slab surface becomes less attractive if regular cleaning and repair work is not carried out.

- Grass and moss grow out of the sand joints
- Cement joints wear out due to weathering
- Joints crack and break out due to frost effects
- Risk of accidents due to tripping on broken joints increases

Cost factor – cleaning with street sweepers:
After the first cleaning of the surface, the joints are bru-shed out up to 2 cm | ³⁄₄". After the second cleaning, it is almost 3,5 cm | 1 ³⁄₈".

If the surface is cleaned regularly, the joints will need to be refilled approx. every two months. Re-filling costs are between 0,40 and 1 € per square metre, calculated yearly that comes to between 2,40 and 6 € – an expensive endeavour.

Old cement joints

Cleaning of joints

10 mm | ³⁄₈" joint depth

D3000 wash in

Paved stone gutters

Using ROMPOX® - D2000 and ROMPOX® - TRAFFIC V2

Gutters made of natural stone or concrete stone paving stones direct surface water into the drainage system. According to ATV DIN 18318:2019 the joint widths for gutters should be between 10–15 mm | ³⁄₈ – ¹⁄₂", the paving stone should be set „fresh on fresh" and jointed using bonded pavement jointing mortar.

ROMEX®- synthetic resin pavement jointing mortars have the following advantages:

1. no breaking out of joints from frost or de-icing salt
2. high strength even with heavy traffic loads
3. quick and clean jointing with low consumption

Consumption: approx. 5 kg/m | 11 lbs/m
(i.e. for paved stone gutter with 3 rows large stone 14 × 16 cm | 5 ⁹⁄₁₆" × 6 ¹⁄₄", with Ø 10 mm | ³⁄₈" joint width and 50 mm | 2" joint depth)

Application potential: up to 1 000 m | 40 000"/day
(i.e. with a group of 3–4 workers)

Re-opening of surface: can be driven on after 24 hours
(at Ø +20 °C | 68 °F surface temperature;
at lower temperatures: slower hardening;
at high temperatures: faster hardening)

Joint repair on roundabouts

Working with the road maintenance depot, ROMEX® was able to present a permanent and cost effective solution against weedgrowth on roundabouts to the federal department for roads NRW. The federal department is particularly concerned, amongst other things, about the surface being environmentally friendly and de-icing salt resistant. Both roundabouts were cleaned and re-jointed within two hours. Consumption for this project was approx. 2,5 kg/m² (100 kg for 40 m²), whereby the edge stones incl. the joint to the asphalted road was also jointed. That equals a square metre price of approx. 10 € incl. labour (three people).

Special solution
Repair mortar
for various
applications

With ROMEX® repair mortars

road damage, spalling and cracks
can be repaired quickly and easily in a wide variety of areas.

Bridges

Curbstones

Potholes

Manhole cover

Stairs

Breakout points

One product. Many possibilities. Thanks to its outstanding properties, our repair mortar can be used in many different ways, especially in public areas. A highly reactive variant (HR) is available for winter use down to -10 °C or when surfaces have to be reopened to traffic particularly quickly.

ROMPOX® - D4000

The simple repair mortar

ROMPOX® - D4000 is a 2-component epoxy resin repair mortar. This mortar is used for friction locked crack sealing and to repair edges or broken areas. hanks to the high reactivity of the product, the surface can be re-opened to traffic very quickly. Whether for road damage, holes, breakage on curbstones or around manhole covers or cracks in floor coatings: the repair mortar ROMPOX® - D4000 can be used all year round, even at lower temperatures from 5° C.


sand-neutral


stone grey-concrete


basalt-asphalt

Properties

- surface depths from 10 mm | 3/8"
- high strength
- for force-fit crack sealing
- for repairing edges/broken areas
- for the treatment of sinkholes and faulty areas
- workable from 5 °C

APPLICATION

Construction site requirements: The surface should be prepared according to the expected traffic loads. Loads that later go over the surface must not cause the surface to sink or loosen stones.

Preparation: Clean out joints to a depth of at least 10 mm. The surface should be load bearing, slightly rough, free of elutriants, dust and loose particles as well as free of oil, grease and other impurities that could act as separators.

If necessary: Pretreat the surface by sandblasting, shotpeening, grinding or milling. The minimum adhesion strength of the surface needs to be 1.5 N/mm² (Herion machine).

Mixing: Open the bucket, open the bottles within and pour the contents slowly and completely into the filler material component. In order to fully utilise the contents, when working during lower temperatures, the resin/ hardener components should be brought up to room temperature before use. This makes it easier to empty the bottles and improves mixing. Start the mixing process. Do not add water! After 3 minutes of mixing time, pour the mortar into a clean, dry bucket and mix again for at least 3 minutes. When re-potting please ensure that any remaining resin on the bucket sides is scraped out and added to the new bucket. Total mixing time: at least 6 minutes. Use a professional whisk or concrete mixer.

Application breakage/holes: Pour the ready mixed repair mortar onto the surface and pre-distribute using a shovel or metal squeegee. Using a trowel, compact the mixture and smooth the surface. Good compacting is vital to ensure the longevity of the final product!

Application edge breakage/curbstone repair: Apply the ready mixed repair mortar using a trowel onto the area to be repaired and roughly mould to shape, then compact using a smoothing trowel and level off.
Tip: use a second trowel as "moulding" to create a well compacted edge. Larger vertical areas should be encased.

Professional tip: To achieve even better edge strength, with edge chipping and very shallow areas, mix the resin / hardener components in a separate bucket for 2 minutes and then add the contents to the filler component. Mix again for at least 3 minutes. Since a residue of the resin / hardener mixture always remains in the bucket, this residual amount can be used as a primer for the faulty area. To do this, use a brush to coat the resin / hardener mixture onto the area. The repair mortar is then processed wet in wet as described above.

All tools and work shoes should be cleaned in the event of work stoppage and after application with commercially available solvents (for example, ethanol, methylated spirits). The cured product can only be removed mechanically.

Subsequent treatment: Rain protection is not necessary in case of drizzle. In case of permanent or heavy rain, the freshly jointed surface should be protected against rain for 2 hours. The rain protection layer must not be laid directly onto the surface, this is to ensure sufficient air circulation. In case of doubt, please lay a sample surface before commencing application.

TECHNICAL DATA

System	2-component epoxy resin repair mortar	
Compressive strength	47.3 N/mm² | 6 860 psi Building site value	DIN 1164 part 7
Bending tensile strength	18.3 N/mm² | 2 654 psi Building site value	DIN 1164 part 7
Static elasticity module	8 700 N/mm² | 1 261 829 psi Building site value	DIN 1164 part 7
Hard mortar raw density	1.72 kg/dm³ | 1.0 oz/in³ psi Building site value	
Application time at 20 °C | 68 °F	10–15 minutes	ROMEX®-norm 04
Application temperature	5 °C up to max. 30 °C | 41 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 5 hours can be walked on, after 24 hours fully load bearing	
Storage life	24 months	
Storage	frostfree, dry	

GENERAL NOTES

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - D4000 HR

The quick repair mortar

ROMPOX® - D4000 HR is a 2-component epoxy resin repair mortar. This mortar is used for friction locked crack sealing and to repair edges or broken areas. Thanks to the high reactivity of the product, the surface can be re-opened to traffic very quickly. An application temperature of up to -10 °C | 14 °F makes this product unique. Whether for road damage, holes, breakage on curbstones or around manhole covers or cracks in floor coatings: the unique repair mortar ROMPOX® - D4000 HR can be used all year round, even at minus temperatures.

Properties

- surface depths from 10 mm | 3/8"
- high strength
- for force-fit crack sealing
- for repairing edges/broken areas
- for the treatment of sinkholes and faulty areas
- quick re-opening to traffic
- can be applied up to -10 °C | 14 °F


sand-neutral


stone grey-concrete


basalt-asphalt

APPLICATION

Construction site requirements: The surface should be prepared according to the expected traffic loads. Loads that later go over the surface must not cause the surface to sink or loosen stones.

Preparation: Clean out joints to a depth of at least 10 mm. The surface should be load bearing, slightly rough, free of elutriants, dust and loose particles as well as free of oil, grease and other impurities that could act as separators.

If necessary: Pretreat the surface by sandblasting, shotpeening, grinding or milling. The minimum adhesion strength of the surface needs to be 1.5 N/mm² (Herion machine).

Mixing: Open the bucket, open the bottles within and pour the contents slowly and completely into the filler material component. In order to fully utilise the contents, when working during winter, the resin/hardener components should be brought up to room temperature before use. This makes it easier to empty the bottles and improves mixing. Start the mixing process. Do not add water! After 3 minutes of mixing time, pour the mortar into a clean, dry bucket and mix again for at least 3 minutes. When re-potting please ensure that any remaining resin on the bucket sides is scraped out and added to the new bucket. Total mixing time: at least 6 minutes. Use a professional whisk or concrete mixer.

Application breakage/holes: Pour the ready mixed repair mortar onto the surface and pre-distribute using a shovel or metal squeegee. Using a trowel, compact the mixture and smooth the surface. Good compacting is vital to ensure the longevity of the final product!

Application edge breakage/curbstone repair: Apply the ready mixed repair mortar using a trowel onto the area to be repaired and roughly mould to shape, then compact using a smoothing trowel and level off.
Tip: use a second trowel as "moulding" to create a well compacted edge. Larger vertical areas should be encased.

Professional tip: To achieve even better edge strength, with edge chipping and very shallow areas, mix the resin / hardener components in a separate bucket for 2 minutes and then add the contents to the filler component. Mix again for at least 3 minutes. Since a residue of the resin / hardener mixture always remains in the bucket, this residual amount can be used as a primer for the faulty area. To do this, use a brush to coat the resin / hardener mixture onto the area. The repair mortar is then processed wet in wet as described above.

All tools and work shoes should be cleaned in the event of work stoppage and after application with commercially available solvents (for example, ethanol, methylated spirits). The cured product can only be removed mechanically.

Subsequent treatment: Rain protection is not necessary in case of drizzle. In case of permanent or heavy rain, the freshly jointed surface should be protected against rain for 2 hours. The rain protection layer must not be laid directly onto the surface, this is to ensure sufficient air circulation. In case of doubt, please lay a sample surface before commencing application.

TECHNICAL DATA

System	2-component epoxy resin repair mortar	
Compressive strength	51.2 N/mm² | 7 426 psi Building site value	DIN 1164 part 7
Bending tensile strength	19.4 N/mm² | 2 814 psi Building site value	DIN 1164 part 7
Static elasticity module	8 900 N/mm² | 1 290 836 psi Building site value	DIN 1164 part 7
Hard mortar raw density	1.73 kg/dm³ | 1.0 oz/in³ Building site value	
Application time at 20 °C | 68 °F	10–15 minutes	ROMEX®-norm 04
Application temperature	-10 °C | 14 °F up to max. 30 °C | 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 2 hours can be walked on	
Storage life	24 months	
Storage	frostfree, dry	

GENERAL NOTES

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - D4000 | ROMPOX® - D4000 HR

The strongest repair mortar

The road network in Germany nowadays is already overloaded and the Federal Government's forecast does not see any improvement in the future either. On the contrary. Since most of the road surfaces in Germany are made of asphalt, a further decisive factor for road damage is the heavy traffic loads. Asphalt loses its elasticity and adhesive power over time, the material becomes weak. First, cracks appear, which then turn into potholes caused by erosion and ice formation in the cracks.

Potholes are an annoyance and at the same time a source of danger. It is logical that cities and municipalities are interested in repairing these holes as quickly and permanently as possible. Preferably during the winter when the time for such repair work is available. At minus temperatures, however, most of the materials fail during the application phase. In addition, many products crumble after a certain time, so the renovation is not permanent.

ROMEX® provides the solution for you! With our repair mortar ROMPOX® - D4000 HR, which has been developed precisely for these fields of application, potholes can be repaired quickly and permanently. Thanks to the high reactivity, the area can be re-opened to traffic within a short period of time. Application temperature of up to -10 °C makes this product unique. But it is the many uses for this product that make it so impressive. Due to its material make up and consistency, ROMPOX® - D4000 HR can also be used to repair edges or breakouts, such as curbs, staircases, ramps. The product is used not only in outdoor areas, but also in storage and industrial halls.

Repair mortar proves itself in practice comparison

Even if we have always been convinced by the quality of our repair mortar, ROMEX® is pleased with the numerous positive feedbacks received, such as the one from the Eifel municipality of Kall: the potholes repaired with ROMPOX® - D4000 at the heavily frequented station are still perfectly repaired three years after completion (installation 2014).

This is not a matter of course for many competing products. Retrospect: At that time, the building authority had been looking for a permanent solution to repair road damage. Besides the cold asphalt of a competitor known in road construction, the repair mortar ROMPOX® - D4000, freshly launched on the market as a world innovation in 2013, was also installed for comparison, and with resounding success: the very good quality was already recognisable during the first inspection after three months. After ten months, it turned out that the conventional cold asphalt was slowly crumbling, whereas the ROMEX® repair mortar did not allow any complaints. And today, after almost three years, it is clear: the material has proved its worth. Not least because of its stability and longevity it does not cause any subsequent costs.

Scepticism removed by quality

At first they were rather suspicious. "We were sceptical at first whether this special repair mortar ROMEX® would hold" Manager of civil engineering Helmut Murk says. How-ever, after a recent site visit, Murk is full of praise: „Yes, the ROMEX® mortar has held, so well in fact that we can hardly believe it ourselves. "On the other hand, the competitor's product faired particularly badly: The cold asphalt used in the same area has broken down again by more than 80 percent, after not even a year."

ROMPOX® - D4000 HR
can also be applied at -10 °C

In addition to the longevity of ROMEX® repair mortar, it is the second highlight, which also impressed the municipality of Kall: the substance can be applied even at temperatures of up to -10 degrees. This means that it can be used to repair road damage and potholes all year round. Since the market launch of the new ROMPOX® - D4000 | ROMPOX® - D4000 HR in the winter 2013/2014, more than 200 municipalities in Germany and Austria, as well as industrial operators for in-house repairs, have been convinced of the quality of the product and have been using it regularly since then.

Thanks to the numerous possibilities of use, but above all by its longevity, our repair mortar ROMPOX® - D4000 is a cost-effective solution for building yards and road maintenance companies for the maintenance of roads, sidewalks, curbs and other damaged areas.

Application examples ROMPOX® - D4000

Repair of road damage

Filling of holes and damage

Repair of curbstones

Bedding products

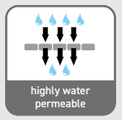
ROMPOX® - TRASS-BED

Frost resistant drainage mortar

ROMPOX® - TRASS-BED is a highly water-permeable bedding mortar with ztrass additives for the installation of natural stone pavers as well as natural and concrete stone slabs on frost-proof substructures in outdoor areas.

Properties

- from 3 cm | 1 3/16" layer thickness
- highly water permeable
- prevents frost damage
- lessens waterlogging and discolouration
- frost and de-icing salt resistant
- ready to use mixture
- compressive strength > 35 N/mm²
- application temperature from +5 °C



APPLICATION

Construction site requirements: The subsurface needs to be made load bearing, firm and water permeable. Water impermeable load distribution layers (screeds), such as areas with house utility connections as well as any slab coverings that are laid, need to have a slope of at least 1,5–3,0%. Any water that gathers needs to be drained with corresponding drainage measures. In case of any watertight outdoor areas and levels where water flows and partial puddles form, it is recommended installing a suitable capillary-breaking drainage mat.

Mixing: Mix ROMPOX® - TRASS-BED so that it is earth damp, mixing time 2–3 minutes. Water requirement approx. 9 % = approx. 3,6–3,8 litres | 0,95–1,0 gal of cool, clean water per used 40 kg Ready mix. Mix using a pug mill mixer or gravity mixer. For smaller amounts, mixing can be done in a wheelbarrow or mortar tub. After mixing, the mortar is ready for immediate use. Where possible, use the entire container, otherwise weigh the exact amounts needed.

Application:
Natural stone paving stones: The thickness of the paved stone bed whilst loose, should be 3-6 cm depending on type of stone and expected loads. Mix ROMEX® - TRASS-BED so it is earth damp and pour it loosely into the bed. Paving stones are laid hammer-hard = lay stones individually and hit them 3-4 times with a hammer. When filling the joints, at least 3 cm joint depth from the top edge of the stone is required, in case of traffic loads at least 2/3 the height of the stone. After laying, protect the surface with a sheet - after 24 hours lightly spray with water and cover again for 48 hours. Finally, use ROMEX® pavement jointing mortar to fill the joints. After 7 days the surface can be walked on, after 14 days it can be driven on by vehicles up to 3,5t (private surface), after 28 days it is fully load bearing. Paved stones that have been sawed/measured should be treated with ROMEX® - ADHESION ELUTRIANT before laying – the same applies to stones that, because of their shape, cannot be hammered into one third of the paved stone bed, or generally to fulfil the ROMEX® SYSTEM GUARANTEE (RSG).
Natural and concrete stone slabs: In general, slabs should be treated with ROMEX® - ADHESION ELUTRIANT before laying.

TECHNICAL DATA

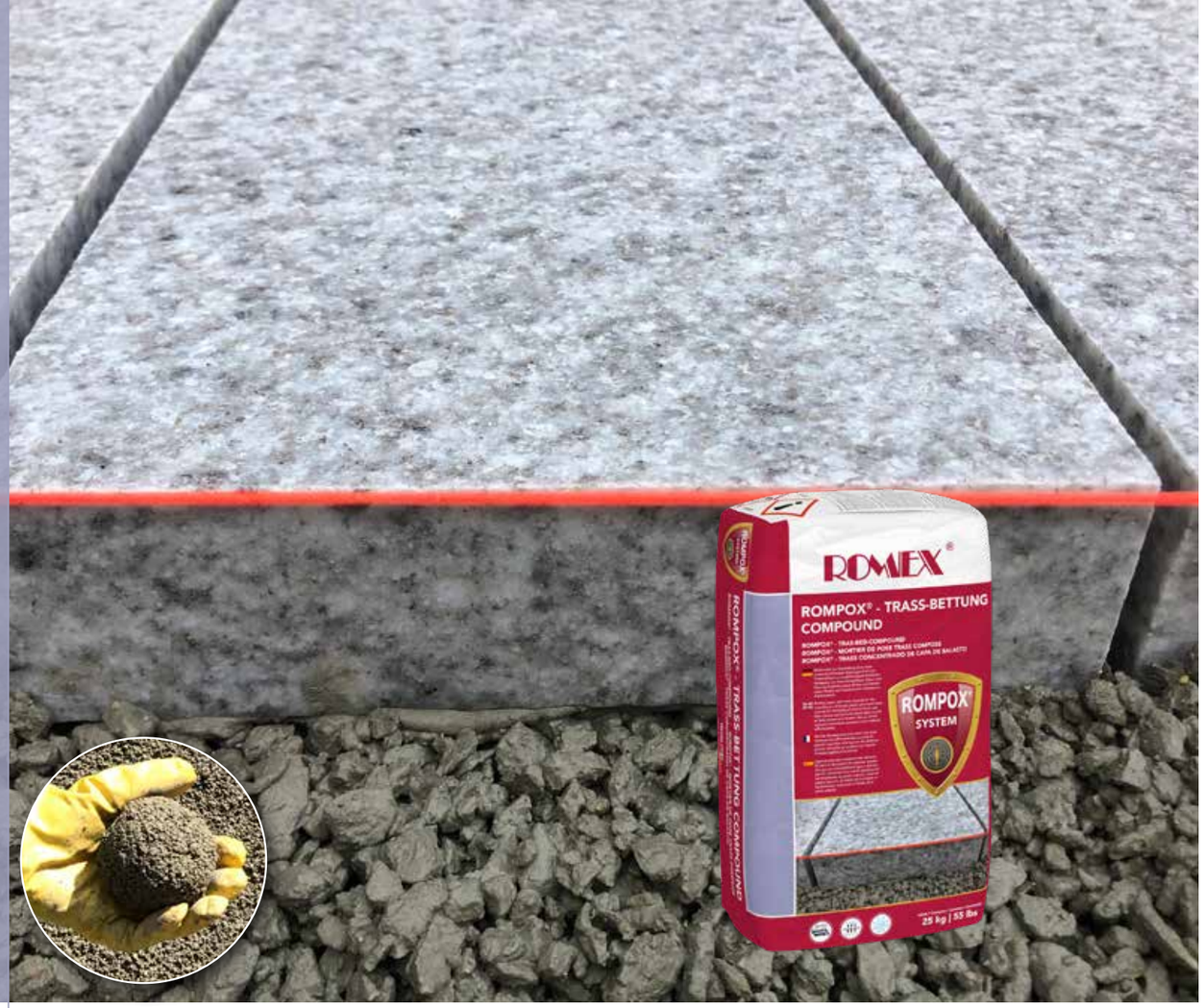
Application time	approx. 2 hours at 20 °C | 68 °F application temperature
Application temperature	5–30 °C | 41–86 °F, do not lay onto frozen ground
Material requirement	40 kg = 22 litres of fresh concrete approx. 18,5 kg/cm layer thickness/m²
Water addition	3,6–3,8 litres | 0,95–1,0 gal of water per 40 kg Ready mix
Compressive strength	35 N/mm² | 5 076 psi after 28 days
Water permeability coefficient*	⩾ 14,2 x 10^{-5} m/sec | 20.1 iph (dependent on filler material)
Storage life	6 months
Storage	dry and in original sealed container

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.



ROMPOX® - TRASS-BED-COMPOUND

Frost resistant drainage mortar

ROMPOX® - TRASS-BED-COMPOUND is a binding agent with trass minerals for the production of a highly water permeable bedding mortar. The compound reduces efflorescence during the laying of natural stone cobbles, natural and concrete stone slabs as well as brick stones and ceramic tiles on a frost resistant base course outdoors. The compound is mixed earth-moist in the volume ratio 1:4 with filler, e.g. rolling gravel or grit. To use our system guarantee (RSG), the filler to be used can be sent to ROMEX® for a single certification.

Note on the RSG

To obtain the ROMEX® SYSTEM GUARANTEE, rolled gravel or chippings of 2–5 mm, 2–8 mm, 4–8 mm or 5–8 mm | 1/16"–1/4", 1/16"–3/8", 1/8"–3/8" or 1/4"–3/8" grain size can be used, which have been tested and certified by the ROMEX® laboratory before use.

Properties

- from 3 cm | 1 3/16" layer thickness
- highly water permeable
- prevents frost damage
- lessens waterlogging and discolouration
- frost and de-icing salt resistant
- compressive strength > 25 N/mm² (Higher compressive strengths possible by changing the mixing ratio)
- application temperature from +5 °C

APPLICATION

Construction site requirements: The subsurface needs to be made load bearing, firm and water permeable. Water impermeable load distribution layers (screeds), such as areas with house utility connections as well as any slab coverings that are laid, need to have a slope of at least 1,5–3,0%. Any water that gathers needs to be drained with corresponding drainage measures. In case of any watertight outdoor areas and levels where water flows and partial puddles form, it is recommended installing a suitable capillary-breaking drainage mat.

Recommended mixing ratio:

1 volume part ROMPOX® - TRASS-BED-COMPOUND	Example: 10 litres | 2.6 gal
4 volume parts filler material (i.e. rolled grit/gravel 4–8 mm) | 1/8" - 3/8"	Example: 40 litres | 10.6 gal
For compressive strengths >25 N: Mixing ratio 1:3	

Mixing: Mix ROMPOX® - TRASS-BED-COMPOUND in a ratio of 1:4 with filler material (i.e. rolled grit/gravel 4–8 mm | 1/8" - 3/8") so that it is earth damp, mixing time 2–3 minutes. Water requirement approx. 11 litres | 2.9 gal of cool, clean water per used 25 kg ROMPOX® - TRASS-BED- COMPOUND. To do this, mix ROMPOX® - TRASS-BED-COMPOUND with filler material and first add approx. 9 litres | 2.4 gal of water. Keep adding water to the mix until the mortar mixture is slightly shiny and can be rolled into a firm ball. Mix using a pug mill mixer or gravity mixer. For smaller amounts, mixing can be done in a wheelbarrow or mortar tub. After mixing, the mortar is ready for immediate use. Where possible, use the entire container, otherwise weigh the exact amounts needed.

Application: The thickness of the bedding mortar, should generally be 4–10 cm | 1 1/2"- 4" deep depending on expected loads (load classification / usage category) and stone. (Exception is mixed construction method for usage category N2 of ZTV path construction with a thickness of ≥ 10 cm | ≥ 4".) Lay the ready mixed bedding mortar loosely. The connection elements to be used are pre-treated with ROMPOX® - ADHESION ELUTRIANT and laid at the correct height and hammer-hard into their final position. When filling the joints, at least 3 cm | 1 1/4" joint depth from the top edge of the stone is required, in case of traffic loads at least 2/3 the height of the stone.

Subsequent treatment: After laying, protect the surface with a sheet. After 24 hours lightly spray with water and cover again for 48 hours. Until the bedding mortar has reached it's full strength, the surface should not be used. In case of bad weather conditions, this may take a longer time.

Important information: After 48–72 hours, depending on weather and mortar consistency, jointing using ROMPOX® pavement jointing mortar can be carried out. After 7 days the surface can be walked on, after 14 days it can be driven on by vehicles up to 3,5t (private surface), after 28 days it is fully load bearing. In general all connecting elements should be treated with ROMPOX® - ADHESION ELUTRIANT before laying onto the bedding mortar.

TECHNICAL DATA

Application time	approx. 1 hour at 20 °C | 68 °F application temperature
Application temperature	5–25 °C | 41–77 °F, do not lay onto frozen ground
Material requirement	approx. 18,5 kg | 40.8 lbs of ready mixed bedding mortar per cm layer thickness/m² ≙ approx. 3,7 kg | 8.2 lbs ROMPOX® - TRASS-BED-COMPOUND
Water addition	approx. 11 litres | 42.9 gal of water per 25 kg | 55 lbs bag/mortar mixture
Compressive strength	> 15–30 N/mm² | 2 175-4 351 psi after 28 days (dependent on filler material)
Water permeability coefficient*	≥ 14,2 x 10^{-5} m/sec | 20.1 iph (dependent on filler material)
Low in chromate	yes
Storage life	12 months
Storage	dry and in original sealed container

Volume

The volume (V) is the spatial content of a geometric body. The simplest method of volume determination is the so-called "leaching" method: the body is filled with sand or water, the amount of which is then determined in a known vessel; thus, the volume of their interior can be determined in vessels. In practice, fill the 25 kg bag ROMPOX® - TRASS-BED-COMPOUND into a bucket and mark the fill level with a marker. Rolled gravel / grit is then filled up to this mark and you have achieved equal volume of the materials.

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

ROMPOX® - ADHESION ELUTRIANT

The secure bond bridge for slab surfaces

ROMPOX® - ADHESION ELUTRIANT contains trass cement and is tempered with polymers. It is used as an adhesion bridge for the laying of natural stone cobbles, natural and concrete stone slabs as well as brick stones and ceramic tiles on bonded ROMPOX® - TRASS-BED. It provides like a kind of glue for the optimal connection between bedding and stone. As a link between stone and bedding, ROMPOX® - ADHESION ELUTRIANT is an important part of our system guarantee (RSG).

Properties

- contains trass cement
- polymer-modified
- bond bridge for the laying of natural and concrete stone slabs on bonded ROMPOX® - TRASS-BED

concrete grey

ROMEX 10 YEAR GUARANTEE 50 YEARS LE RSG 10

ROMEX 5 YEAR GUARANTEE 25 YEARS LE RSG 5

ZTV N3 usage category

DIN > 3.5 to limitation of use

ROMEX heaviest loads up to 40 to

APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products as well as the ROMEX® SYSTEM-GUARANTEE (RSG). For optimum application it is recommended using ROMEX® application tools.

Preparation: In order to ensure optimum adhesion between the connecting element and adhesion elutriant, it should be ensured that the connecting element is thoroughly cleaned to remove dust and sawing residue, before applying adhesion elutriant. Lose particles and other dirt must be removed.

Mixing: To achieve a consistency that is plastic and can be spread, pour 8 litres | 2.1 gal of cool, clean water into a container. Then add 25 kg | 55.1 lbs of ROMPOX® - ADHESION ELUTRIANT and stir for 3 minutes. After 3 minutes of maturing time stir through again briefly. Depending on reason for use, adjust consistency by adding more water. Always use up the entire container!

Application:
1st variation: When laying slabs, ROMPOX® - ADHESION ELUTRIANT is applied to the slightly moist slab underside with a layer thickness of approx. 3–5 mm | 1/8"– 1/4" using a broad brush/notched trowel and then hammered into the freshly laid drainage mortar. When using ROMPOX® - ADHESION ELUTRIANT, care should be taken that the product on the underside of the stone/slab does not squeeze out, as this will seal the joint in this area. To avoid this, scrape off the adhesion elutriant approx. 5 cm from the edge of the stone/slab, i.e. using a trowel.

2nd variation: Dip the slab or cobble stone 2–3 cm | 3/4" – 1 1/4" deep into a tub of ROMPOX® - ADHESION ELUTRIANT then immediately hammer into the freshly laid drainage mortar.

Important instruction:
- Bonded paved stone and slab coverings may have cracks appear as a result of weather influence, temperature swings and traffic loads.
- Base courses/bed that have no drainage capacity may get damaged when moisture penetrates.
- Sawed stones should be roughened on the underside and stone edges before using with ROMPOX® - ADHESION ELUTRIANT.
- Paved stone work is done by hand, not using a vibratory plate or similar compacting machinery.
- Expansion joints should be laid according to relevant guidelines.
- On impermeable surfaces, measures need to be taken to drain seeping water. Standing water on the impermeable layer needs to be diverted using filter layers and slope.

TECHNICAL DATA

Application time	approx. 2 hours at 20 °C | 68 °F
Application temperature	5–25 °C | 41–77 °F do not use on frozen ground
Material consumption	25 kg | 55.1 lbs = 19 litres | 86 gal of fresh mortar approx. 1,3 kg | 2.86 lbs per mm layer thickness/m^2 For layer thickness 3–5 mm = 3,9–6,5 kg/m^2 = Ø 5 kg/m^2 55.1 lbs = 5 gal of fresh mortar approx. 2.86 lbs per 1/16" layer thickness/sqm For layer thickness 1/8" –3/16" = 0.80–1.33 lb/sqft = Ø 1.02 lb/sqft
Addition of water	approx. 8 litres | 2.1 gal of water per 25 kg | 55.1 lbs Elutriant
Dry density	1,5 kg/dm^3 | 0,87 oz/in^3
Low in chromate	yes
Storage life	12 months
Storage	dry and in originally sealed containers

Information

It should always be avoided, that during laying of the stone/slab, the ROMPOX® - ADHESION ELUTRIANT does not „squeeze out the edges" because this could cause the joint to become sealed in that area. To avoid this, scrape off the ADHESION ELUTRIANT about 5 cm | 2" from the edge of the stone/slab i.e. using a trowel.

GENERAL NOTES

Limitation of use, use category and load classes
Indicates the load-bearing capacity of a substructure and superstructure manufactured according to German standards in accordance with RStO 12, ZTV-Wegebau, DIN 18318. These are terms from German standards, regulations and guidelines for road construction, civil engineering and pavement construction.

Filler materials
All filler materials are natural products which are subject to natural colour deviations.

Water permeability coefficient
Water permeable according to „Leaflet on surfaces that allow for seepage" (MVV), Issue 2013.

Construction variations

Preparation of subsurface and jointing:
pavement jointing mortars cannot withstand settling of the subsurface. Any expansion joints present in the substructure should be incorporated into the paved stone surface. Expansion joints should be laid according to construction principles. The subsurface should be dimensioned according to the expected traffic loads and be water permeable. Valid regulations should be heeded. ZTVT, ZTVE, RStO, DIN 18318, MFP1 and TL, DNV leaflet, work paper FGSV etc.

Minimum joint depth: ⩾ 30 mm | 1 1/4" with pedestrian loads, ⩾ 2/3 of the height of the stone for traffic loads.
Depending on type of paving stone, a gap remains between joint and bed. For cost reasons, this can be filled with a filter stable, water permeable, firm and shrinkage free filler material, i.e. a high quality sand-gravel mixture or if the joints are wide enough, with ROMPOX® - TRASS-BED (sweep it dry into the joints to the minimum jointing depth and then immediately clean the paved stone surface with a fine water jet spray). Alternatively, ROMEX® pavement jointing mortar can be worked into the joint completely.

Minimum joint width: 3–8 mm | 1/8"–3/8" depending on ROMEX® pavement jointing mortar.
For joint widths larger than 15 mm | 1/2", the joint depth must be at least double the joint width.

Preparation of stone surface:
Before jointing, the stone surface should be cleaned thoroughly of all soiling such as dirt, oil, rubber residue or rust.
Old paving stones: Remove any mortar residue on sides of stones completely.

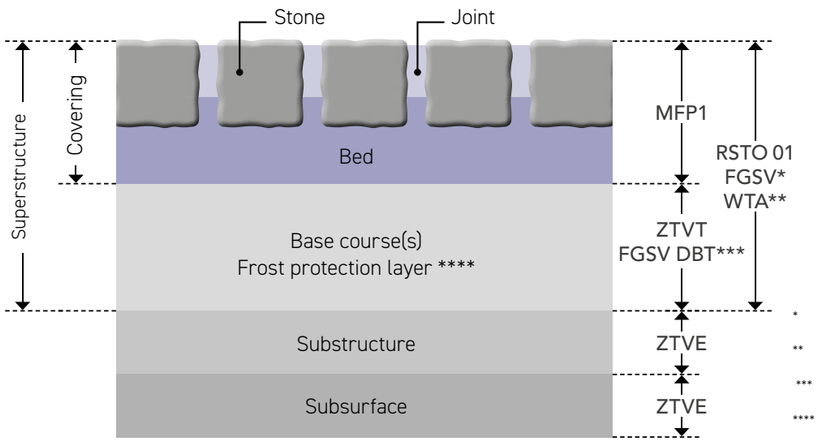
Construction variants for paving:

Basics: The joint is only as strong as it's substructure. Faults in the substructure result in breakage/ cracks, which in turn can lead to damage to intact edge surfaces when subjected to traffic loads.

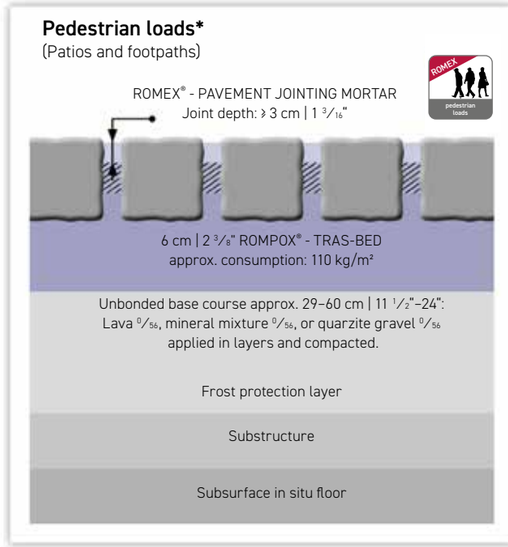
This applies in general for newbuilds:

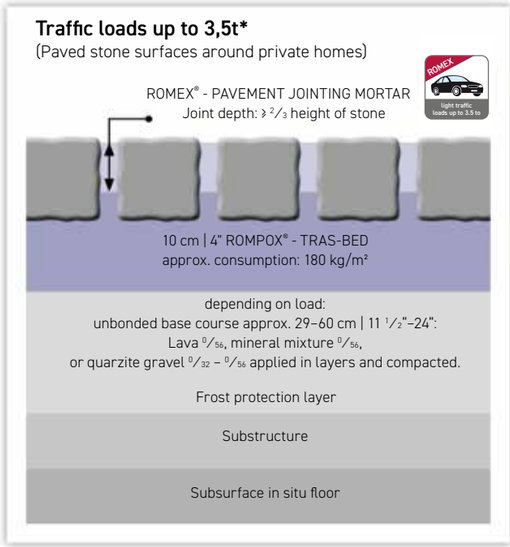
- If the paved surface will only be subjected to pedestrian traffic, then the laying of the paving stones/slabs can be done on firm and settled gravel/sand mixtures, grain size 0/4 – 0/8. Alternatively: the use of ROMPOX® - TRASS-BED guarantees a non-settling bed.
- Paved surfaces subjected to vehicle loads, are laid on the ROMPOX® - TRASS-BED, according to the expected loads. Please take note of the following sketches.

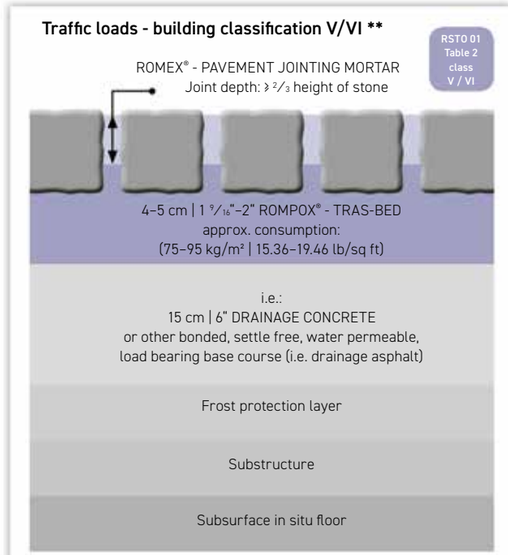
Setup of bonded construction method

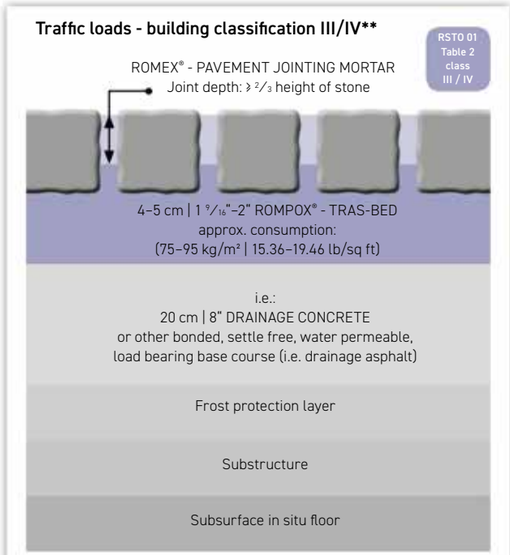


* FGSV Work paper surface fixing with paved stone coverings, bonded construction - Issue 2007 (no.: 618/2)
** WTA Leaflet – Bonded construction method historical paving stones (no.: E 5/21: Issue 01/2009/D)
*** FGSV Leaflet for drainage concrete base courses Issue 1996 (no.: 827)
**** Frost protection classifications Germany









Pedestrian loads: Depending on type of paving stone, a gap remains between joint and bed. For cost reasons, this can be filled with a filter stable, water permeable, firm and shrinkage free filler material, i.e. a high quality sand-gravel mixture or if the joints are wide enough, with ROMPOX® - TRASS-BED (sweep it dry into the joints to the minimum jointing depth and then immediately clean the paved stone surface with a fine water jet spray). Alternatively, ROMEX® pavement jointing mortar can be worked into the joint completely.

* The construction variations are based on ROMEX® experiential values and the current level of ROMEX® Technology. These contain the ROMEX® system guarantee RSG-5. Please ask us for our detailed system guarantee conditions!
** The construction variations are based on the current issues of the valid leaflets and guidelines for bonded construction methods. Issue 03/2010 – We reserve the right to make changes.

Displacement protection

ROMEX® – ISATEC®
Implement projects safely

ROMEX® is a pioneer in the field of displacement protection for large format slabs and pavers made of natural stone or concrete. Years of development work with experts from the road construction industry make our system solutions unique in their kind and offer the best protection.

In order to secure particularly stressed traffic areas and prevent displacements, ISATEC® - FLEX is installed as a visco-elastic joint filler system with the displacement protection ISATEC® - STOP (Bk3.2 RSt0 12).

ISATEC® - FLEX is viscoplastic, water-permeable and complies german regulations (see page 19). It is the first and only viscoplastic special joint mortar on the market which, due to its outstanding technical properties in the sense of the SLG Code of Practice on concrete slabs for trafficable traffic areas (January 2021), works as a jointing from 5 mm joint width for the upper 30 mm. To prevent the displacement of joint material, e.g. due to traffic load, use of vacuum sweepers or fast-flowing surface water, special mortar should be used. This protected project solution, including a ROMEX®-SYSTEM GUARANTEE (RSG), is only available from ROMEX® in this form.

It is not only the corresponding axle transitions that are important. The towing curves of vehicles must also be taken into account. In projects, there are always areas that are exposed to particularly high loads. These include turning points, gradient and stop sections, entrances and exits, bus stops, fixtures, cross joint bracing, etc.

When planning traffic areas that can be driven on, the expected load must be correctly assessed from the outset.

ISATEC® SYSTEM

ROMEX®

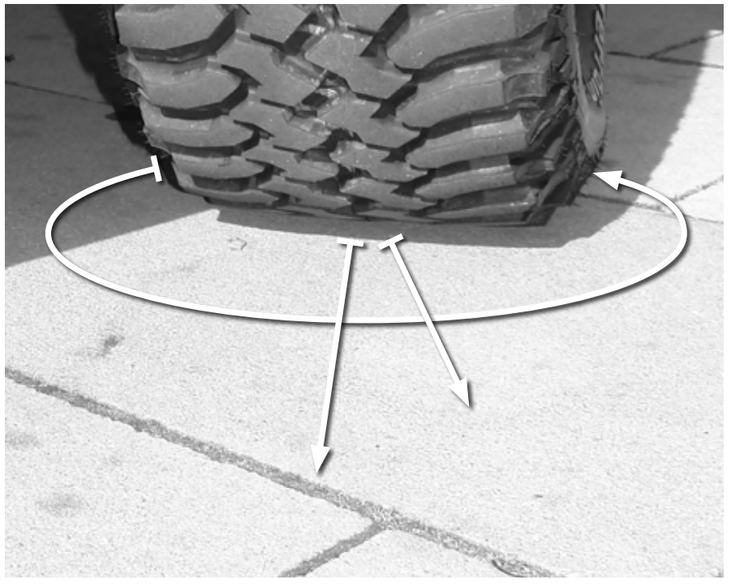
- ISATEC® - STOP DISPLACEMENT PROTECTION
  - ISATEC® - STOP EAP
  - ISATEC® - STOP EAPQ
  - ISATEC® - STOP EAK
  - ISATEC® - STOP EAS1200
  - ISATEC® - STOP EA3K
  - ISATEC® - STOP EEAP
  - ISATEC® - STOP EAgTD

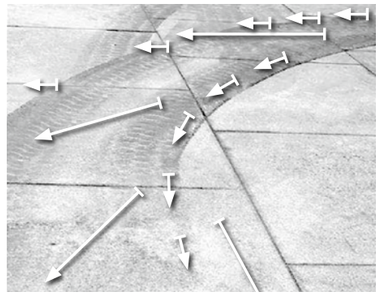
ISATEC®

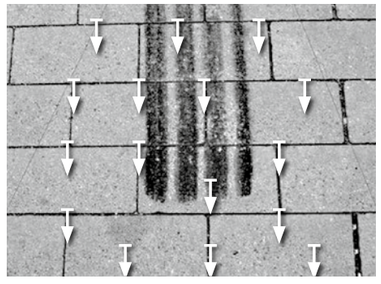
- ISATEC® - FLEX VISCOPLASTIC JOINT

Displacements cause damage

A displaced surface causes damage and results in visual defect. A broken panel also means a damaged surface. Ultimately, the functionality of the entire surface is impaired. To avoid trouble, additional costs and wasted time, it is important to prevent such damage as much as possible.







Heavy vehicles in motion develop high static and equally high dynamic forces.

Patterns of Damage

Displacement protection is immensely important for planning and execution of paver installation

Surfaces under traffic load (VB) must be provided with protection against displacement (source: Forschungsgesellschaft für Straßen- und Verkehrswesen FGSV). Displacements are damaging and influence the functionality of the entire traffic surface. In addition to the correct **dimensioning of the superstructure**, it is important to protect areas which are at risk. Only these areas are given separate **displacement protection with ISATEC® anchors**. In addition to displacement, the upper area of the joints is subject to constant danger of being worn out. A lack of joint material weakens the entire system. A permanent joint sealant provides the necessary safety.

Dimensioning

Studies by the industry and the research community show that slabs under traffic load must be dimensioned accordingly. RStO 12 bases its calculations on axle loads of up to 10 tonnes. With modern heavy goods vehicles, these can even be as high as 11.5 tonnes. Not only do high dynamic driving forces occur here, but also high static forces due to the dead weight of the heavy vehicles having to be absorbed. In specialist circles, this is referred to as "inclined-train main tension". Consequently, not only the fracture behaviour of the panel but also the problem of displacement must be taken into account at the same time when calculating dimensions.

Displacement protection

An additional displacement protection for slabs and pavers, for surfaces in the unbound version, counteracts the dynamic forces caused by heavy traffic or heavy vehicles, such as buses or trucks, and protects the pavement from shifting. This displacement protection can be achieved by conservative measures such as low shelves, steel rails, etc., or modern displacement protection

Joint filler

A permanent joint closing, in the sense of the current code of practice "Concrete slabs for traffic areas", of the SLG, is produced by the installation of a viscoplastic special mortar. This strengthens the bond and thus the overall system by ensuring that the joint material is not worn out and can permanently fulfil its load-bearing function. A viscoplastic joint is optimal as this can absorb slight settlement processes such as those which still occur at the start of use.

Detailed information in the ISATEC® brochure

ISATEC® - STOP

Safety displacement protection for paved areas

Corresponding displacement protections have been developed for every type of dynamic load. With the special range of ISATEC®-STOP displacement protections, damage is avoided in the long term.

The bending of these metal constructions ensures three functional properties. A forced joint of 8 mm | ⅜" is secured. The horizontal support surface absorbs the dead load of the covering material and thus ensures the fixation of the displacement protection. The vertical bends penetrate into the bedding and base layer. This prevents the structure from shifting under traffic loads.

Proceed according to the ROMEX® instructions. The displacement protection should only be used in the hazardous areas foreseen by the design. The anchoring points are to be taken from the construction drawing or the installation plan. The ISATEC® - STOP safety anchors are to be driven down to the bedding with an approx. 1400 g. hammer down to the bedding level. After the displacement protection has been inserted, the joints can be filled. Always secure a complete continuous row. The laying algorithm is chosen depending on the expected axle crossings or the expected trailing curves of the heavy traffic. By using a vibratory plate on slabs or large pavers, the earth anchors are additionally driven into the superstructure. When using concrete slabs with moulded on cams, the ISATEC® safety anchors must be positioned in the existing spaces.

The displacement protection is a metal construction made from a separate steel alloy with additional hot-dip galvanising and powder coating.

- Steel grade: cold rolled plate, special tempering
- Corrosion protection by hot-dip galvanising min. 10µ
- Powder coating min. 80µ
- RAL ED40043

Properties

- Hot-dip galvanised
- Special alloy
- Oil-hardened
- RAL colouring
- Cam formation

Deutsches Patent- und Markenamt

ISATEC® - FLEX

Tough elastic special mortar for upper joint filling

The viscoplastic and water-permeable special mortar ISATEC® - FLEX has optimal functional properties. The mortar compensates for the movements of the covering that occur in unbound construction of the pavement. Due to the high level of flank adhesion, flank cracks are virtually avoided. The functionality is not impaired by individual hairline cracks. The filling with the flexible joint seal should be approx. 3 cm | 1 ¼". The minimum joint width is set at 5 mm | ¼". Joint irons should be used to ensure that the joints run evenly. The bedding and jointing material should ideally consist of a mineral mixture of 0/8 mm | 0/⅜" crushed sand-chip mixture (hard stone). It should be certified and comply with the standards.

If the bedding and joint material have different grading curves, the filter stability must be ensured. Deviating grading curves must be declared and confirmed separately by the contractor.

Advantages of joint sealing with ISATEC® - FLEX

- No rinsing
- No washing out
- No weed growth
- Water permeable
- Frost and de-icing salt resistant
- Sweeper-proof
- Bk3,2 RStO 12 (in the system with ISATEC® - STOP)

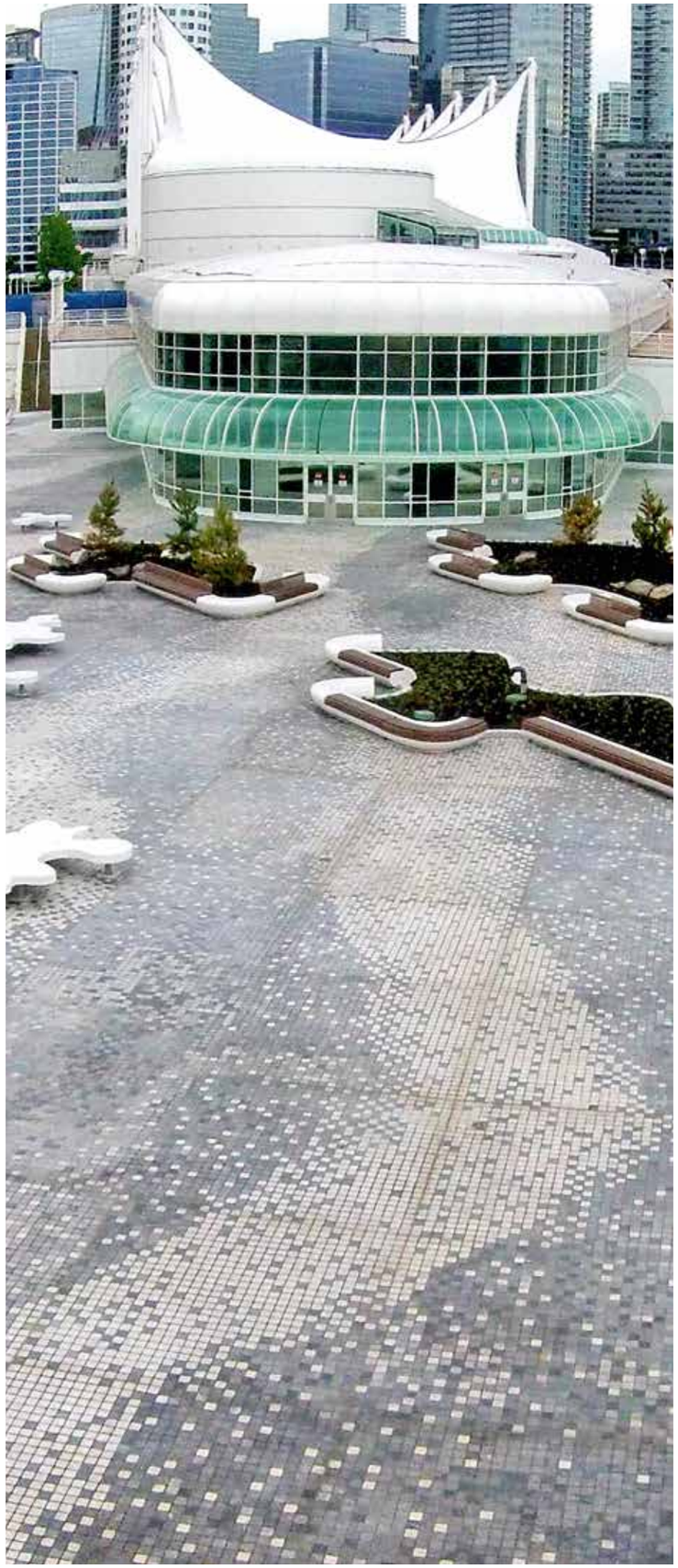
The colour shade is determined by sampling. When using ISATEC® - FLEX a short-term colour intensification of the stone surface can be seen. However, the synthetic resin film and the associated colour deepening disappear after a few months due to natural weathering and stress.

Supplementary regulations

- ZTV path construction, 2013
- DIN 18318, 2019
- ZTV Pflaster STB 20
- M FG (Code of practice for pavements with large formats, 2013)
- SLG Merkblatt Plattenbeläge aus Beton für befahrbare Verkehrsflächen, january 2021

Warranty with system

RSG
System solutions



ROMEX®
SYSTEM-GUARANTEE (RSG)

The ROMEX® SYSTEM GUARANTEE is a truly competitive advantage for every customer. ROMEX® is the first and only manufacturer in the field of paving stone and slab construction to offer such a guarantee to its customers. ROMEX® means security, especially for specialist companies, which today often provide a five-year guarantee on their construction services to their end customers according to the Civil Code (BGB).

The ROMEX® - BEDDING & JOINTING SYSTEMS have been used successfully in private as well as public areas for decades. When laid correctly, ROMEX® offers a SYSTEM GUARANTEE of up to 10 years, with a normative life expectancy (average life expectancy) of up to 50 years.

With the ROMEX® SYSTEM GUARANTEE, or RSG for short, ROMEX® is the first manufacturer of paving bed & jointing systems to offer laying companies an additional guarantee beyond the statutory GUARANTEE.

THE RSG ADVANTAGES

- Lasting good system compatibility of the joint and bedding
- No weed growth through the joints
- 100% frost and de-icing salt resistant
- UV and weather resistance
- Permanent durability
- Prevents settling

Private areas

Driveways, patios

The private area includes paving and slab flooring around the house. These are primarily patios, paths and driveways. The compliant structure is subject to the requirements of the VOB and the ZTV road construction.

The use categories subdivide loads into three categories (N1 to N3) from pedestrian to car to occasional vehicle loads of up to 20 t gross vehicle weight.

Loads and weather conditions, especially frost and de-icing salt, are the challenges that the superstructure, stone and joint must face. ROMEX® provides its customers with the ROMEX® SYSTEM GUARANTEE the necessary safety assurance for a long-lasting, functional and beautiful paved surface.

i Talk to us about the guarantee conditions!

Public areas

Streets, paths, squares

Public areas include paving stone and slab surfaces on roads, paths and squares. The compliant design is subject to the requirements of the VOB and the RStO 12. The load classes are subdivided according to loads, in equivalent 10-t axis transitions during the normative period of use. Starting with Bk 0.3 (300 000 equivalent 10-t axle transitions) to Bk 3.2 (3 200 000 equivalent 10-t axle transitions). In addition, exceptional situations are considered separately, such as bus stops, bus stations or roundabouts.

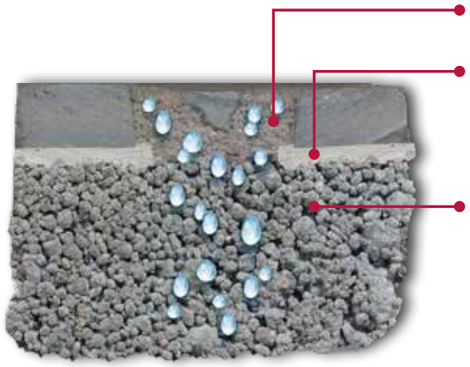
External influences from frost and de-icing salt, permanently high loads from torsional and shear forces, as well as from the use of sweeping machines or urban events, present major challenges that the superstructure, covering and joint have to withstand. We want to give architects, planners and builders the required assurance of a long-lasting surface.

With professional execution, according to the valid regulations, we guarantee with the systems ROMEX® SYSTEM BONDED-2-PUBLIC (bonded construction) and ROMEX® SYSTEM UNBONDED-2-PUBLIC (unbonded construction) a long-lasting covering, which can easily withstand all occurring influences and loads.

The bonded construction

for all paving and slab coverings made of natural and concrete stones as well as ceramics

The earth subgrade must have the appropriate stability (at least 45 MPa). The following superstructure layers must be sufficiently load-bearing, water-permeable, deformation-resistant and frost-proof. The mineral mixtures (base course/bedding/joint) in unbound execution must meet the requirements of the respective type of execution. The relevant additional current contract conditions for road construction (ZTV) must be complied with. A deviation should only be made with sufficient positive regional experience. The applicable regulations and codes of practice, such as ZTVT, ZTVE, ZTV Pflaster-StB 20, RStO 12, ATV DIN 18318, MFP 2015, TLPflaster-StB, MFG and SLG Merkblatt Plattenbeläge aus Beton für befahrbare Verkehrsflächen (January 2021), must be observed.



ROMEX® - PAVEMENT JOINTING MORTAR

ROMPOX® - ADHESION ELUTRIANT

- trass cement-containing, polymer modified adhesion bridge
- suitable for all stone coverings

ROMPOX® - TRASS-BED

- prevents frost damage
- for pedestrian and traffic loads
- highly water permeable

ROMPOX® - TRASS-BED / COMPOUND

High quality and partially polymer modified Portland/Trass cement mixes are exclusively used for our bonded ROMEX® SYSTEMS because the trass mineral connects with the lime particles of Portland cement and neutralizes them.

The big advantage is the greatly reduced risk of waterlogging, efflorescence and discoloration. In conventional Portland cement products, without trass, the lime particles migrate through joint and stone covering to the surface and react there with the CO_2 of the air. The result: a lime layer forms on the rock surface, which is called "efflorescence".

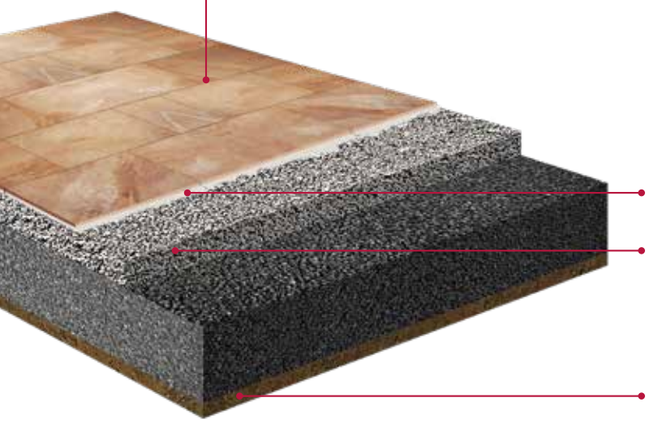
ROMEX® SYSTEM BONDED-1-PRIVATE

For the **bonded construction** of paving and slab coverings
within the usage categories 1–3 (N1/N2/N3) according to ZTV-Wegebau.
For private areas (driveway, patio).

Usage category N1, DIN 18318 Pedestrian loads:

Accessible non-motor vehicle pavers outside areas of road traffic (eg. patios, garden paths, paths in the home garden area, seats in parks).

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **20 mm | ¾“**



ROMEX® pavement jointing mortar:
depending on the application fully jointed
- ROMPOX® - ECOFINE
- ROMPOX® - DRAIN
- ROMPOX® - DRAIN PLUS
- ROMPOX® - D1

Joint depth = ½ Stone height, at joint depth ≤ 30 mm | 1 ¼“ fully jointed (Consumption depending on stone format and joint dimension)

ROMPOX® adhesion elutriant:
(Consumption: approx. 5 kg/m² | 1.02 lb/sq ft)

ROMEX® bedding products:
a) ROMEX® - TRASS-BED **or**
b) ROMEX® - TRASS-BED-COMPOUND*
Layered bedding approx. 6 cm | 2 ⅜“ (Consumption: about 100 kg/m² | 20.48 lb/sq ft **or** 20 kg/m² | 4.10 lb/sq ft)

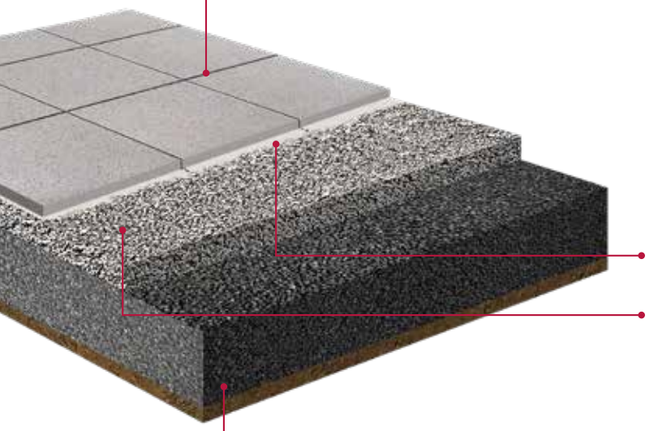
Base course / frost protection layer
according to ZTV-Wegebau and DIN 18318

* When using ROMPOX® - TRASS-BED-COMPOUND aggregates with grainsizes 2–5 mm, 2–8 mm, 4–8 mm or 5–8 mm (usually rolled gravel/grit), which are tested and certified by the ROMEX® laboratory before use can be used.

Usage category N2 & N3:

Accessible surface coverings for vehicles up to 3.5 t permissible gross weight outside areas of road traffic (eg. garage access, car parking spaces) as well as occasional vehicle traffic up to 20 t permissible total weight with wheel loads ≤ 5 t outside of road traffic areas (eg. care, maintenance and emergency routes as well as fire brigade, garage and building driveways).

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **80 mm | 3 ⅛“**



ROMEX® pavement jointing mortar:
depending on the application fully jointed

Usage category N2: (optional)
- ROMPOX® - DRAIN
- ROMPOX® - DRAIN PLUS

Joint depth: min. ¾ stone height,
(Consumption depending on stone format and joint dimension)

Usage category N3:
- ROMPOX® - D1 (and higher)

Joint depth: min. ¾ stone height,
(Consumption depending on stone format and joint dimension)

ROMPOX® adhesion elutriant:
(Consumption: approx. 5 kg/m² | 1.02 lb/sq ft)

ROMEX® bedding products:
a) ROMEX® - TRASS-BED **or**
b) ROMEX® - TRASS-BED-COMPOUND*
Layer thickness bedding about 4–6 cm | 1 ½“– 2 ⅜“ (Consumption: approx. 100 kg/m² | 20.48 lb/sq ft **or** 20 kg/m² | 4.10 lb/sq ft)

Drainage asphalt or drainage concrete layer (15 cm | 6“)

* When using ROMPOX® - TRASS-BED-COMPOUND aggregates with grainsizes 2–5 mm, 2–8 mm, 4–8 mm or 5–8 mm (usually rolled gravel/grit), which are tested and certified by the ROMEX® laboratory before use can be used.

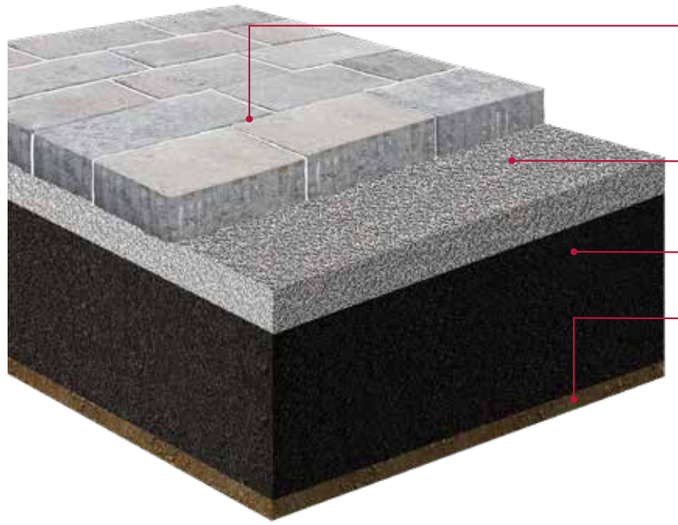
ROMEX® SYSTEM UNBONDED-1-PRIVATE

For the **unbonded construction** of paving stone and slab coverings within
the usage categories 1–3 (N1/N2/N3) according to ZTV-Wegebau.
For private areas (driveway, patio).

Usage category N1:

Accessible non-motor vehicle pavers outside areas of road traffic (eg. patios, garden paths, paths in the home garden area, seats in parks).

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **50 mm | 2“**



ISATEC® - FLEX
Joint depth: ¾ Stone height, min. 3 cm
Minimum joint width 5 mm | ¼“,
(Consumption depending on stone format and joint dimension)

Bedding
3–5 cm | 1 ¼“–2“ aggregates ⁰/₄; ⁰/₅ or ⁰/₈ mm according to DIN 18318 and ZTV-Wegebau

Base course / frost protection layer
according to ZTV-Wegebau

Base / substrate

Usage category N2 & N3, DIN 18318 >3,5 to

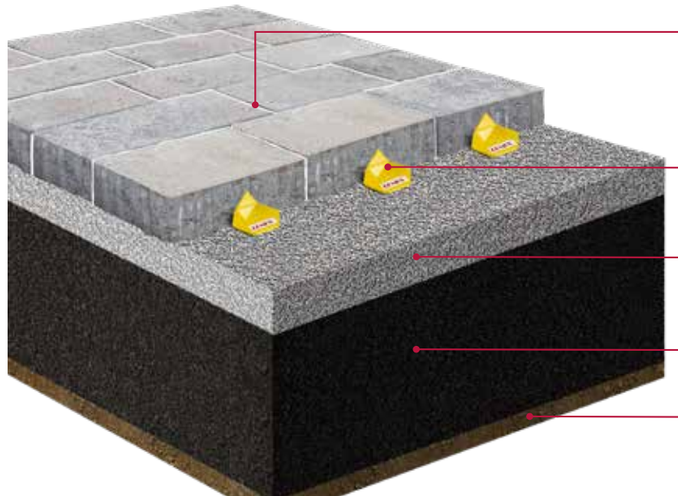
Accessible surface fastenings for vehicles up to 3.5 t permissible gross weight outside areas of road traffic (eg. garage access, car parking spaces) as well as occasional vehicle traffic up to 20 t permissible total weight with wheel loads ≤ 5 t outside of road traffic areas (eg. care, maintenance and emergency routes as well as fire brigade, garage and building driveways).

Usage category N2:

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **60 mm | 2 ⅜“**

Usage category N3:

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **80 mm | 3 ⅛“**



ISATEC® - FLEX
Joint depth = ⅓ stone height, min. 3 cm
Minimum joint width 5 mm | ¼“,
(Consumption depending on stone format and joint dimension)

ISATEC® - STOP
(Needs assessment based on site plan and hazardous areas)

Bedding
3–5 cm | 1 ¼“–2“ aggregates ⁰/₄; ⁰/₅ or ⁰/₈ mm according to DIN 18318 and ZTV-Wegebau

Base course / frost protection layer
according to ZTV-Wegebau

Base / substrate

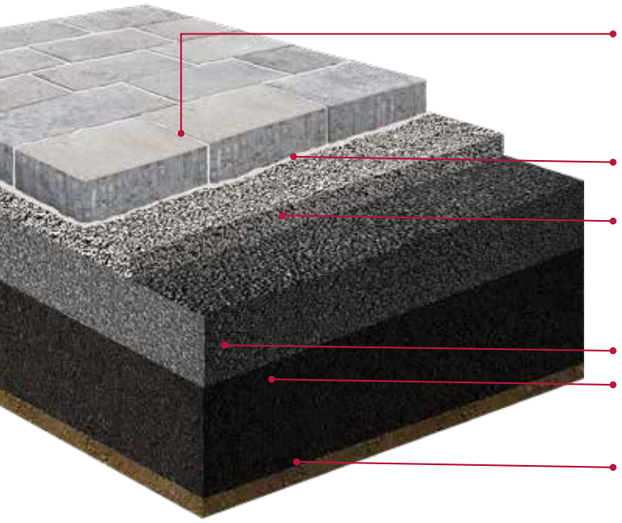
ROMEX® SYSTEM BONDED-2-PUBLIC

For the **bonded construction** of paving stone and slab coverings according to DIN 18318 from load class 0.3 in accordance with RStO 12.
For public areas (roads, paths, squares).

Load class Bk 0.3 to 1.8:

Passenger car traffic including occasional heavy traffic, through traffic by vehicles of the entertainment industry, eg residential and residential roads, village main street, district and collection roads.

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **80 mm | 3 1/8“**



ROMEX® pavement jointing mortar:
depending on the application ¾ stone height:
ROMPOX® - D2000 (and higher quality)
Minimum joint width 5 mm | 1/4“ (Consumption depending on stone format and joint dimension)

ROMPOX® adhesion elutriant:
(Consumption: approx. 5 kg/m² | 1.02 lb/sq ft)

ROMEX® bedding products:
a) ROMPOX® - TRASS-BED **or**
b) ROMPOX® - TRASS-BED-COMPOUND*
Strong bedding approx. 5–7 cm | 2“–2 3/4“ (Consumption: approx. 110 kg/m² | 22.53 lb/sq ft **or** 22 kg/m² | 4.51 lb/sq ft)

Drainage asphalt or drainage concrete layer (15 cm | 6“)

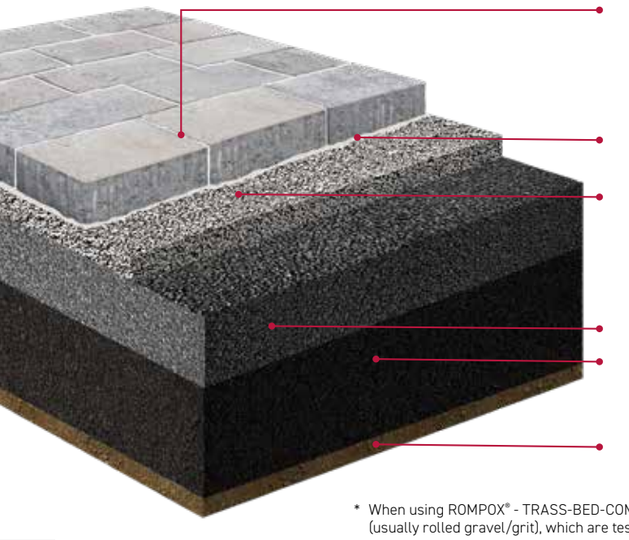
Frost protection layer (30 cm | 11 3/4“)
from gravel or crushed stone, grit, sand mixture
E_{V2} > 120 MPa/m² | 17 405 psi

Base/substrate

Load class Bk 1.8 to 3.2 & special cases such as bus stations and bus stops as well as roundabouts:

Passenger car traffic including occasional heavy traffic up to 65 buses/day, eg. commercial street, main shopping street, local commercial street and heavy traffic up to 130 buses/day, eg. local access roads, commercial street, main shopping street, local commercial street.

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **100 mm | 4“**



ROMEX® pavement jointing mortar:
depending on the application ¾ stone height:
ROMPOX® - TRAFFIC V2
Minimum joint width 8 mm | 3/8“
(Consumption depending on stone format and joint dimension)

ROMPOX® adhesion elutriant:
(Consumption: approx. 5 kg/m² | 1.02 lb/sq ft)

ROMEX® bedding products:
a) ROMPOX® - TRASS-BED **or**
b)ROMPOX® - TRASS-BED-COMPOUND*
Strong bedding approx. 5–7 cm | 2“–2 3/4“ (Consumption: approx. 110 kg/m² | 22.53 lb/sq ft **or** 22 kg/m² | 4.51 lb/sq ft)

Drainage asphalt or drainage concrete layer (15 cm | 6“)

Frost protection layer (30 cm | 11 3/4“)
from gravel or crushed stone, grit, sand mixture
E_{V2} > 120 MPa/m² | 17 405 psi

Base/substrate

* When using ROMPOX® - TRASS-BED-COMPOUND aggregates with grainsizes 2–5 mm, 2–8 mm, 4–8 mm or 5–8 mm (usually rolled gravel/grit), which are tested and certified by the ROMEX® laboratory before use can be used.

ROMEX® ISATEC® SYSTEM UNBONDED-2-PUBLIC

For the **unbonded construction** of paving and slab coverings according to DIN 18318 from load class 0.3 in accordance with RStO 12.
For public areas (roads, paths, squares).

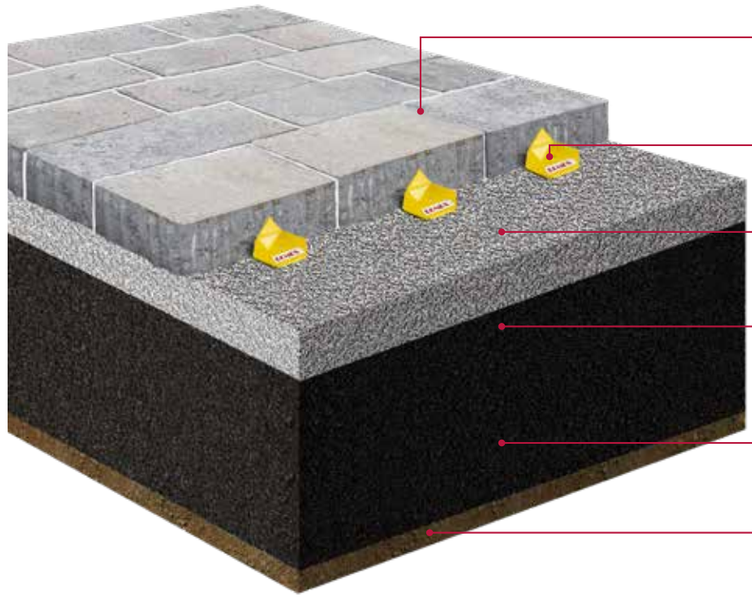
Load class Bk 0.3 to 3.2 & special cases such as bus stations and bus stops as well as roundabouts:

Passenger car traffic including occasional heavy traffic up to 65 buses/day, eg. commercial street, main shopping street, local business street as well as heavy traffic up to 130 buses/day, eg. local access roads.

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height)= **100 mm | 4“**

Special cases such as bus stations and bus stops as well as roundabouts:

Minimum requirement for fastenings/surface covering: Minimum nominal thickness (stone height) = **120 mm | 5“**



ISATEC® - FLEX
Joint closure 3 cm (Consumption depending on stone format and joint dimension),
Min. joint width 5 mm | 1/4“

ISATEC® - STOP
(Needs assessment based on site plan and danger areas)

Bedding
3–5 cm | 1 1/4“–2“ aggregates
0/4; 0/5 or 0/8 mm according to DIN 18318

Supporting layer of gravel (30 cm | 11 3/4“)
or gravel, grit, sand mixture
E_{V2}= 150 MPa/m² | 21 756 psi for paving
and 180 MPa/m² | 26 107 psi for tile coverings

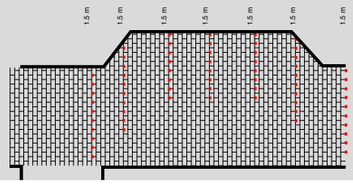
Frost protection layer of gravel (20 cm)
or gravel, grit, sand mixture
E_{V2} > 100 MPa/m² | 14 504 psi

Base/substrate

ISATEC® displacement protection

The ISATEC® displacement protection devices are the most **cost effective** way to prevent damage caused by shifts in paving stones and thus to fulfill the “current technology R2”, as described in the leaflet for surface fastenings with large formats (MFG 2013).

ROMEX®-Service:
Our experienced planning staff determine the exact positioning of the ISATEC® - STOP safety anchors taking into account the submitted drawing details, the traffic load, the driving relationships and the installation structure.



A FEW STEPS TO THE GUARANTEE

The ROMEX® SYSTEM-GUARANTEE (RSG) is a real competitive advantage for every customer and at the same time means a high level of security.

1

Registration of the construction project:

Request the ROMEX® SYSTEM GUARANTEE APPLICATION (PDF form) and fill it out completely. Your ROMEX® contact person in the office and in the field will be happy to assist you.
Simply send the completed application by e-mail to: info@romex-ag.de
Alternatively, you can of course print out the application, fill it in by hand and fax it to us: 02225 70954-19.

2

Registration of the construction project:

The application is promptly registered and checked by the technical department of ROMEX® and possible open questions will be clarified immediately. The registration number will be entered by ROMEX® into the application, signed and sent to your e-mail address.

3

After completion of the construction project:

In order for the guarantee to become effective and the certificate to be issued please send the following documents and photos in full to ROMEX® (by e-mail or post):

- Photo of completed area
- Acceptance certificate
- Copies of the dealer invoice of the purchased ROMEX® products as well as of the fixed elements (paving-slab covering)

4

Sending/handing over of the certificate:

As soon as all requirements for the fullfillment of the guarantee are met, we will send/hand over the guarantee certificate to you.

Technology

Technical information
and practical application tips

Basics of permanent paved stone covering built using a bonded method

Introduction

Traffic routes that are built using paving stones are part of the road construction sector. Road construction consists of calculation, building and maintenance of the road network for vehicles, bicycles and pedestrians. The main requirements of the users of traffic routes are safety and user comfort. This means that those that carry out road construction, need to make sure that the traffic routes are correctly constructed and maintained. The main properties that such traffic routes need to have are, strength, load-bearing capacity, frost resistance and to be level and nonslip – irrespective of the type of use and construction.

In order to achieve this, good planning, thorough work preparation, careful carrying out of construction as well as adherence to standard applicable regulations are a necessity. Paved stone coverings can be laid in a loose/unbonded way or as bonded construction. Unbonded laying is the general way of laying paved stones.

Bonded paved stone coverings are used for special areas and have a number of advantages compared to unbonded paved stone coverings:

- pedestrians can safely walk on the paved stone surface
- weeds don't grow through the joints
- joints are not washed away by erosion
- good absorbtion of shear force without dislocation of paved stones
- resistant to street sweepers and high pressure cleaners

The technical applicable regulations have also been modified to reflect this development. In August 2007 the following paper was published: FGSV Work Paper "Surface coverings using paving stones and slabs in bonded construction" (Surface strengthening using bonded paved stone coverings and slab surfaces.) This ROMEX® publication aims to show in detail how the jointing and fixing of paved stones outdoors can be done using synthetic resin pavement jointing mortars, and to inform you of this still relatively young, only 30 year old, method of jointing.

The correct setup

Bed/subsurface/substructure

The existing ground/floor (bed) needs to be prepared expertly for the paved stone construction – the so-called superstructure – that will be laid on top. It needs to be built so that it can take profiles, is even and loadbearing. The same applies to any kind of substructure that may be built due to certain local conditions. The expertly built surface of the bed/subsurface is called the planum. In general, the planum needs to have the same degree of slope and direction of slope as the subsequent paved stone covering (correct for profiles). In general this should be a slope of 2.5 %, 3.0 % or 3.5 %, depending on the type of paving stones used. If the existing floor is at risk of frost, then the planum needs to have a slope of at least 4 %, so that any water from the superstructure can drain more quickly. All layers above the planum, including the paved stone covering, can be laid according to the degree of slope recommended for such paved stone coverings. The planum needs to be made as level as possible, so that any water seeping through the superstructure, does not stay standing in any pits and endanger the loadbearing capacity and frost resistance of the paved stone construction. Deviations from the target height should not be more than ± 3 cm | 1 ¼".

General

Bonded paved stone coverings are made using building material mixtures containing binding agents for the bed and the joint filling (bed and jointing mortar). Mixed building methods, whereby only the bed or the joint filling uses a building material with binding agents are not generally used, but depending on site circumstances, can be used successfully. Bonded paved stone coverings require particular care and well-founded expertknowledge during planning, bid for tenders, selection of building materials and execution. Paved stones for bonded paved stone coverings should not exceed the usual size (maximum edge length 320 mm | 13"). There is currently insufficient experience to comment on bonded paved stone coverings using larger stones. A bonded paved stone covering, as opposed to the unbonded type, has similar properties to a rigid base such as concrete covering construction (that is why it is often called "rigid construction method"). This needs to be taken into consideration when planning the surrounds, installation and type of expansion joints.

Bedding and jointing mortars should be made up, manufactured and applied in such a way, so that they have the required material properties when the construction is completed. It is particularly important to achieve sufficient adhesion strength between the paving stones and the bedding mortar on the one hand and between the paving stones and the jointing mortar on the other. The following all affect the adhesion strength – weather conditions, application conditions, type, geometry and surface texture of the paving stones, as well as the composition of the mortar. When trying to determine the suitability of bedding and jointing mortars, the following should be taken into consideration – product properties determined in the laboratory as well as those determined on the building site i.e. in a completed construction project. This is particularly important with regard to values for adhesion strength.

Bed

The requirements of the bed are as follows – to conduct any loads on the above paved stone covering into the ground without deforming and with sufficient resistance, as well as providing equalising between any left over uneveness on the upper base course and the paved stone surface above. Various types of mortar can be used for the manufacture of a bonded bed:

- hydraulically bound mortar
- hydraulically bound mortar modified with plastic or
- synthetic resin bound mortar (quickest end hardening (› 24 hrs), good adhesion and bending tensile values.)

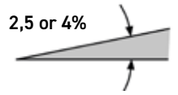
The raw materials for any type of bedding mortar must always correspond to the technical regulations / norms. To estimate the basic suitability of a bedding mortar, certain product properties are determined under defined laboratory conditions. Bedding mortars must fulfill certain requirements with regard to compressive strength, resistance to frost/thaw changes and water permeability. These are described in the FGSV work paper "Bonded fixings of surfaces using paved stone coverings and slabs" (issue 2007). The work paper also gives recommendations of how to fulfill requirements within the finished construction.

Laying bedding mortar requires certain temperatures for the air and the surface as well as the materials to be used. This should be at least + 5 °C | 41 °F for hydraulically bound bedding mortar and at least + 1 °C | 33.8 °F for synthetic resin bound bedding mortar (see manufacturer's instructions).

When using special bedding mortar, application may be possible at lower ambient temperatures. At lower temperatures, the hardening time will be increased. Bedding mortars should not be used on frozen surfaces (< 0 °C | < 32 °F). When using hydraulically and synthetic resin bound bedding mortar, the carrying out of the work should be coordinated so that the hardening of the bedding mortar does not begin until paving stones have been laid at the correct height.

Basic rules for laying of concrete stone paving stones

1. PLANUM
"Planum" describes the surface resulting from the compacted foundation or subsurface. It needs to be built so that it can take profiles, is even and load bearing. The same applies to any kind of substructure that may be built due to certain local conditions. The expertly built surface of the bed/subsurface is called the planum. Due to structural reasons, the required horizontal and lateral tilt on the paved stone surface, is carried out on all the surface layers as well as the planum. Minimum lateral tilt 2,5 %, on water sensitive floors 4 %.



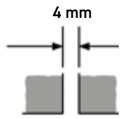
2. BASE COURSES
They must be load bearing, resistant to de-forming and sufficiently water permeable. Base courses are usually made of unbonded stones (base courses without binding agent). They should be made thick enough, able to take profiles, even and load bearing. The required slope results from the slope of the paved stone surface (minimum lateral tilt 2.5 %). The frost protection layer is also counted as a base course without binding agent.

3. CHECK DELIVERED BUILDING MATERIALS
Check delivery note against order. With concrete paving stones, check format, colour, surface and quantity. Compare delivered goods with previously agreed samples. In case of deviation, clarify situation with contractural partner/supplier before construction begins.

4. SURROUNDS
Paved stone coverings need a stable surround! The distance to the surround is determined according to the agreed upon laying width, by laying out single lines of stones before construction begins. Elements for surrounds i.e. curbstones or edging stones, should be set on a foundation made of concrete with a rear support made of concrete too. Foundation and rear support are made "fresh on fresh".

5. DRAINAGE GUTTERS
Any precipitation falling onto the surface must be able to drain away as quickly as possible. Drainage gutter should have a lateral tilt of at least 0.5 %. The elements i.e. trough stones, gutter slabs or paving stones should be laid on a concrete foundation with correct vertical and horizontal alignment and then jointed using bonded jointing material. Drainage gutters should have expansion joints.

6. PAVED STONE BED
It needs to be built of even thickness, be vertically aligned so it can take profiles. Thickness after compacting: 3 to 5 cm | 1 ¼" to 2". In general, for trafficked surfaces, the bed material should have a grainsize of at least 4 mm | ⅛". The bedding material must be filter stable with the base course material! Bedding material should be supplied mixed evenly and evenly damp and applied quickly. After smoothing, the bed must not be walked or driven on.



7. LAYING
Concretete stone paving stones should be laid in the agreed upon distance and with a joint width of 4 mm | ⅛" (from 12 cm | 5" stone thickness with a joint width of 6 mm | ¼"). Distancers between the stones, do not give the measurement of the joint width, pressing laying should be avoided. The joint axis must run evenly. Straight joints are achieved using sufficient lengths of cord, length and crosswise. To avoid concentrations of colour, the stones should be taken from several different packets. Pass stones must not be smaller than half of the starting stone and not too pointed. Additional work should be carried out with wet cutting.

8. JOINTING
Jointing is done using ROMEX® pavement jointing mortar.

ZTV-Wegebau (path-construction)

Additional technical contractual conditions

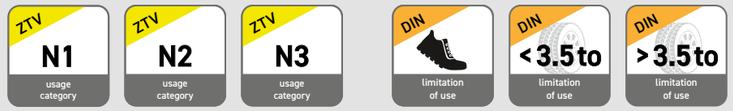
With the publication of "ZTV-Wegebau (path construction) – Additional Technical Contractual Conditions for the Construction of Paths and Squares outside of surfaces for road traffic", the varying and proven construction methods for landscaping construction as set out in ATV DIN 18318, which in part have been used as a standard for decades, are now being compiled into a single set of regulations. Jointing using synthetic resin pavement jointing mortars now belong to the standard methods of paved stone jointing, along with the traditional jointing methods of sand/gravel and cement. 2019 ATV DIN 18318 has been revised. In the essential points, ATV DIN 18318/2019 has taken over construction methods and requirements for materials and execution from ZTV Wegebau and now also contains regulations for the bound construction method, which was previously not taken into account by DIN.

Background and content of the regulations:
Additional technical contract conditions (ZTV) supplement the General technical contract conditions (ATV) in part C of the allocation and contract regulations for construction services. Acc. to § 8 Abs. 5 VOB/A certain agreements may also be included in the additional technical contract conditions, if for certain construction services, similar requirements are present. The additional technical contract conditions for path construction, offers contractual partners, with the inclusion – but without special agreement – of the VOB/B a contractual basis, which fulfills the requirements of paved stone surfaces and slab surfaces with less traffic loads.

With regard to the use of bonded construction methods, additional, brand new and supplementary requirements, especially for the manufacture and laying of bed and jointing materials, are defined.

The new edition of DIN 18318 has largely adopted the classifications according to the type of load that occurs, with slightly different formulations, from the ZTV Wegebau.

The following "loadbearing classifications" are used to differentiate:
„Usage category" (ZTV) and „Limitation of use according to the greatest traffic load " (DIN)



Usage category N 1:
Surfaces that are walked on and that have no vehicle traffic, away from road traffic surfaces (i.e. patios, garden paths, paths in garden areas, seating areas in parks)
DIN 18318 speaks of "walkable".

Usage category N 2:
Surfaces that are driven on, up to 3.5 t allowable total weight, away from road traffic surfaces (i.e. garage driveways, car parking spaces)
DIN 18318 also speaks of "passable, vehicles up to 3.5 to".

Usage category N 3:
Surfaces that are driven on the same as category 2, but with occasional traffic from vehicles up to 20 t allowable total weight, away from road traffic surfaces (i.e. roads used for maintenance or emergency vehicles as well as entrances for fire engines, garages and building entryways.)
DIN 18318 speaks of "passable, vehicles over 3.5 to".

The following construction methods will be discussed in depth:

1. Unbonded construction method
Bed and joint unbonded on bonded/unbonded base course

2. Fully bonded construction method
With the fully bonded construction method, the bed, joint and upper base course are bonded

3. Mixture of construction methods with bonded bed
The base course is unbonded, the joints and bed are bonded

The ZTV Wegebau deviates from DIN 18318 in the following points.
These construction methods are not considered in DIN 18318.
For the following construction methods, the ZTV Wegebau should be expressly agreed.

4. Mixture of construction methods with unbonded bed
The base course and bed are unbonded, the joints are bonded

5. Water permeable surface coverings
Surfaces covered with paving stones or slabs as well as honeycomb and lattice elements, where the joints, openings or structure allow increased water permeability.

6. Green spaces
Surfaces covered with paving stones or slabs as well as honeycomb and lattice elements, where the joints or openings are used for green spaces.

The following binding agents are suitable for bonded jointing materials:

- Cement
- Epoxy resin based reactive resins
  ROMPOX® - DRAIN
  ROMPOX® - DRAIN plus
  ROMPOX® - D1
  ROMPOX® - D2000
  ROMPOX® - D3000
  ROMPOX® - TRAFFIC V2
- Polybutadien
  ROMPOX® - EASY
  ROMPOX® - ECOFINE

Water permeable bonded joints should be made using binding agents made of reactive resins or polybutadien.

Avoid damage during planning and execution

Planning is the be all and end all

The most common cause of damage of paved surfaces with loose foundation and jointing materials e.g. sand or gravel, is heavy truck, car or bus traffic as well as cleaning using aggressive street cleaning machines. Damage such as grooves, loose upended stones and movement of the paved surface are the result. Pavement jointing mortars are not able to compensate for any settling of the subsoil.

Contraction joints need to be laid according to the relevant construction guidelines. Any existing contraction joints in the foundation need to be incorporated into the surface to be paved. The foundation needs to be sized according to the expected traffic loads. Please take note of the construction variations as set out on this page. These can aid you during the planning and laying of long lasting paved stone surfaces. The following statement always applies: "The joint is only as strong as it's sub- and superstructure. That is why it is imperative that during planning, the correct foundation for the paved stone surface is determined. Construction variations and guidelines as well as bedding products are on the following pages."

Checking suitability of stones

Almost all types of stone are suitable (natural, concrete stone, clinker stones). In case of very rough and/ or porous stone surfaces, it should be tested, how well any residue is able to be swept off. Take a handful of wet quartz sand and put it on the stone surface. Sweep off the wet sand with a broom and this gives an indication of how well residue can be swept off.

Nowadays, many stones, especially terrace slabs, are coated, it is imperative, that before jointing is done, the manufacturer is contacted, to find out whether jointing using synthetic resin pavement jointing mortar is possible. Good preparation is vital for paved stone jointing. In order to avoid unpleasantness, both laying companies and do-it-yourself enthusiasts should take note of a few important instructions!

Cement residue

Synthetic resin marks on surrounds

Because you are working with natural materials, it is recommended to always use material from the same delivery / batch on each construction site. If jointing is carried out on a site after work has been interrupted for an extended period of time, then you should always lay a test surface first. Longterm, the new surface will adapt to the old surface due to weathering.

Before jointing

- For the repair of old paved surfaces, clean the gaps with compressed air or water jet (high-pressure cleaner) so that the minimum joint depth of 30 mm | 1 ¼" is reached, any residual mortar sticking to the stones needs to removed completely. The joint width must be at least 3 mm | ⅛", in order to ensure a stable, longlasting result. For joint widths from 15 mm | ½", the joint depth needs to be at least double the joint width, in case of medium traffic loads, at least ⅔ of the height of the stone.

- The stone surface needs to be cleaned of all soiling such as cement residue, dust, bedding material, oil etc. as these may otherwise become sealed under the synthetic resin film. Tape-off adjacent surfaces which are not going to be jointed. Taping off the edges of the surface to be jointed, means that adjacent areas such as curbstones, curb surrounds, house walls etc. will not be at risk of being marked by the synthetic resin.

During jointing

- During application suitable protective gloves and goggles should be worn. Avoid skin contact with jointing mortar, especially the binding agent. When using in sealed rooms, ensure sufficient ventilation.

- Mortar that has already hardened should not be mixed with water or fresh mortar to try and make it usable again.

- The pavement jointing mortar should be spread over the entire surface. If the mix is poured out onto one spot, in order to spread the material from there, then it is possible that dark synthetic resin marks will be left on this spot. These marks will disappear in time and through weathering.

- At higher temperatures the pavement jointing mortar will harden more quickly. At temperatures above 20 °C | 68 °F, small areas should be jointed and brushed off at a time before starting on the next area, in order to prevent hardening and sticking of mortar residue on the stone surface.

After jointing

- Individual grains of sand on the stone surface will disappear during the weathering phase and through abrasion.

- If the surface needs to be protected against rain, the plastic covering sheet must not be laid directly on the surface, as this can cause grey or white discolouration. Air must be able to circulate between the surface and sheet. Fine expansion cracks in the joint or at the stone edges, can always occur; these have no negative effects on the usage properties or frost resistance of the surface. Expansion cracks do not affect walking on the surface or use of sweeping machines.

Preparation tips

- In order to work most effectively, the correct tools are required. To apply the jointing mortar, a good spongerubber squeegee should be used.

- Especially during the the bad weather seasons, attention should be paid to weather reports, so as not to be surprised by rain. Precipitation such as dew or rain can cause the following damage, if the surface is not sufficiently protected during jointing and subsequent hardening of certain systems (DRAIN, D1, TRAFFIC V2):

  ➡ The paving jointing mortar does not harden properly and the end strength is not achieved

  ➡ The binding agent is washed out and the joint loses sand over time

  ➡ Grey or white discolouration may appear on the stone surface

THE MOST IMPORTANT TIPS AT A GLANCE:

- Plan with care.
- Inform yourself about the most suitable mortar.
- Be aware of the weather.
- Clean the surface before jointing.
- Tape off edge areas.
- Use suitable, clean tools.
- Take note of the application instructions.
- Take note of the safety instructions.

Expansion joints

for bonded construction

Bonded construction requires expansion joints. These joints are designed to absorb temperature stresses on the surface and to reduce the amount of cracks. The emergence of cracks in the joint area as well as within fastening elements caused by thermal stresses cannot be completely avoided with expansion joints.

The arrangement of the expansion joints depends on the stone formats as well the geometry of the surface and usually has a distance of between 4 and 8 meters | 4.4–8.8 yd. The larger the stone formats, the less space between the expansion joints. The minimum joint width of the expansion joints is 10 mm | 3/8".

Expansion joints from the substructure and superstructure need to be incorporated right up the joint. Regardless of the joint arrangement, expansion joints are required in all areas adjacent to buildings or towering components.

"Swiss Method":

The Swiss society for road and traffic experts (VSS) recommends in it's guidelines (Swiss Norm SN-640480A "Paving") above all, to avoid incorporating movement joints into trafficked areas. If cracks appear after temperature changes, then it is recommended removing the cracked joints and to then re-install them as expansion joints.

Expansion joints can be manufactured according to the ROMEX® system and the ZTV Fug-StB:

a) The lower joint filling is prepared using joint tape/joint round cord/non water absorbant round foam profiles. These are fixed at 10–20 mm | 3/8– 3/4" below the stone surface.

b) Onto this a permanent elastic pavement jointing mortar is compacted and then levelled off.

c) In order to match the expansion joints visual appearance with the overall jointing, grab „a handful" of jointing sand, before it is mixed with the synthetic resins and sprinkle it over the compacted jointing mass.
Lightly press the sprinkled sand into the joint and carefully brush off any excess.
Slight, product-related color deviations will even out over time.

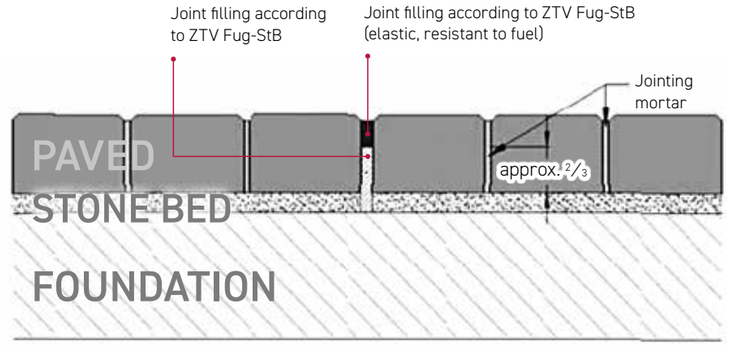
d) Any cracks that may occur over the course of time can be repaired using the same method.

In general, connection and expansion joints should be filled using an elastic jointing mortar material according to DIN 18540. The color of the elastic jointing material should be matched as far as possible to the selected ROMEX® paving mortar. For natural stones please check compatibility beforehand. Please take note of the jointing mass manufacturer's instructions.

According to DIN 52460 the jointing mass used in expansion joints should be regularly checked and renewed if necessary to avoid subsequent damage. This is not part of the guarantee.

Expansion joints in paving stone and slab coverings:

Expansion joints in areas strengthened with grit or gravel (ROMPOX® - DEKO / ROMPOX® - PROFI-DEKO):



PROFESSIONAL-TIP expansion joints:

As described above for pre-treated expansion joints, before all jointing is carried out, joint tape/joint round cord or non water absorbant round foam profiles (or similar) are laid level with the stone surface and approx. 15–20 minutes after jointing has been done, at the latest before fully hardened, removed. The joint is then immediately cleaned carefully with a fine spray and hair brush. The next day the stone edges to the left and right of the expansion joint are taped off using fabric adhesive tape and processed as described above.

The synthetic resin film enhances and refines

Basically, it should be noted that after almost every jointing with synthetic resin pavement jointing mortars, a thin synthetic resin film initially remains on the stone surface, which intensifies the colour of the stones and leads to a glossy effect (wet-look effect). Depending on the product and stone used, this results in a more or less pronounced colour deepening.

The synthetic resin film and the associated colour deepening disappear over time due to natural weathering such as sun, rain and snow, but above all due to mechanical stress on the surface and abrasion. In the case of surfaces exposed to little mechanical stress and hardly any weathering, the synthetic resin film remains for up to a few months; in the case of heavily frequented surfaces in public areas (streets, squares, railway stations), the synthetic resin film usually disappears within a few weeks. On flat surfaces, which are generally exposed to significantly higher loads and stronger weathering, the synthetic resin film disappears faster than on flanks, which are usually often lower and not affected by loads and weathering to such a high degree.

This aspect of resin pavement jointing mortars should be discussed in detail with the client before jointing. Simply pre-wet the area to be jointed with water to see how it will look after jointing. If in doubt, always create a sample area that can be used as a reference surface.

The intensity of the synthetic resin film can be reduced to a certain extent even before jointing by pre- and post-wetting the surface.

The synthetic resin film can also be significantly reduced by wiping the stone surface several times immediately after sweeping with a 1:20 ROMPOX® - BASIC CLEANING AGENT EXTRA to water mixture. ROMPOX® - BASIC CLEANING AGENT EXTRA is suitable for this in combination with the specially developed ROMEX®-HANDLE SPONGE WIPER. With the sponge mop, even large driveways or terraces can be treated in a short time.

The facts about the synthetic resin film:

- The jointing leads to a natural intensification of the stone colour and acts as a high-quality stone surface sealant that protects the paving from staining.
- In the case of light-coloured, rough, open-pored types of stone (e.g. in the case of light-coloured, crushed granite), clinker bricks and custom-made products, more intensive colour deepening may occur due to the synthetic resin film.
- When jointing large-format slabs, the synthetic resin pavement jointing mortar should be drawn over the entire stone surface to create an evenly colour-intensified appearance.
- Uneven use, loading and weathering of the surface may cause temporary differences in the colour of the stone surface.
- During the weathering phase, the stones may appear to have a whitish-greyish discolouration. This is merely a refraction of light in the dissolving synthetic resin film. This phenomenon can easily be prevented by cleaning or treating the stones with colour-enhancing products.
- A resin film is basically not a "workmanship defect", the quality of the surface is not impaired by it.

i

In order to reduce the synthetic resin film that forms after each jointing, to a greater or lesser extent, clean the stone surface immediately after sweeping with a 1:20 ROMPOX® - BASIC CLEANING AGENT EXTRA to water mixture by wiping over it several times. Do not use with ROMPOX® - EASY and ROMPOX® - ECOFINE, as this may cause undesired discolouration of the joints. Preliminary tests on an inconspicuous area are always necessary.

Water permeability

In Geotechnology, permeability is used to quantify the permeability of ground and rock for liquids or gases (i.e. groundwater, crude oil, natural gas). **Seepage is more proactive than environmental protection.**

Environmentally friendly construction and ecological actions, are part of the central concept in towns and communities to promote an environment conducive to a good quality of life. This includes preserving historic parts of towns and country, creating leisure and recreational areas including the development of effective biotope systems. The result of increasing surface sealing, is that there is more surface water. In case of heavy rain, there is a risk of high water and the drainage system is overloaded. This results in poorer quality of our rivers and lakes.

Rainwater is a raw material vital to life and should go back into the natural cycle of things, not into drains. An alternative to the usual method of diverting rainwater is to catch it and let it seep - an environmentally friendly, effective and cost effective solution: rainwater is absorbed by paved stone systems and fed directly back to the ground and groundwater.

On your property you will be able to actively contribute to the environment, by having surfaces strengthened that allow seepage and become de-sealed, allowing near to nature rainwater management. This does not mean you will be deprived of functional or creatively attractive surfaces for paths, patios or driveways.

A **calculated value** that quantifies the permeability of water through ground or rock, is called the permeability value or hydraulic conductivity value.

Water permeabilty acc. to DIN 18130:

very highly permeable	from 10^{-2} m/s
highly permeable	10^{-2} up to 10^{-4} m/s
permeable	10^{-4} up to 10^{-6} m/s
slightly permeable	10^{-6} up to 10^{-8} m/s
very slightly permeable	below 10^{-8} m/s

Grainsize is the deciding factor!

A synthetic resin pavement jointing mortar is always made of two components. The first component is binding agent, which is responsible for hardening and stability. The other component is the filler material, which is responsible for water permeability. The filler material component is a washed, firedried quartz sand with various grainsizes. The quartz sands have no zero components, unlike cement (cement dust). This means that hollow areas can form, through which water can seep. The size of the hollow areas, which depends on the grainsize, determines the degree of water permeability. Especially during winter, the advantage of large hollow areas is evident. Water, that is still in the joints during ground frost, freezes and is able to expand into the hollow areas. This means cracks and breakage in the joints is avoided.

The capillary effect

The capillary effect is the way liquids react when they come into contact with capillaries i.e. tight pipes, cracks or hollow areas in hard materials. Example: if you dip a glass tube vertically into water, the water will rise slightly in the tube against gravity. This effect occurs due to surface tension of the liquids themselves and from the border surface tension of the liquids with the hard surface (in this example: glass). In the construction industry, when synthetic resin bound pavement jointing mortar is used i.e. on paved stone surfaces that have been jointed with synthetic resin based pavement jointing mortar, the capillary effect can be seen in the joints, because depending on the joint mortar used and the pore content or sand grainsize, varying amounts of moisture are able to rise against gravity. This means that even if a foundation is only slightly water permeable, water will not remain permanently in the joint.

Using ROMEX® systems, you can do your part to be environmentally friendly. Because the ROMEX® products strengthen surfaces, paths and squares, without sealing them!

Frost and de-icing salt resistance

A significant advantage of synthetic resin pavement jointing mortar over cementitious joint is its frost resistance. As soon as moisture or water can settle into the joints, e.g. through cracks, cement joints will crack and eventually break when expanded by frost.

Synthetic resin-based pavement jointing mortars, on the other hand, are absolutely frost-resistant.

Our test reports from independent material testing institutes prove in black and white that paving and slab surfaces jointed with ROMPOX® systems, with a waterproof substructure, have absolute frost resistance. In accordance with DIN 52104 Part 1, corresponding freeze-thaw cycles have been tested. Tests passed with flying colours.

Absolute resistance to the effects of frost and de-icing salt and therefore an ideal system for jointing paving and slabs!

The result was justified by the fact that ROMEX® pavement jointing mortar have a high number of pores of certain sizes due to their composition, which not only ensure high water permeability, but also provide enough expansion space for developing ice when exposed to frost.

In addition to the frost resistance of all ROMEX® pavement jointing mortar, which has been proven by test engineering laboratories, the more than 30 years of experience without any frost damage with our customers also speaks a clear language!

Please feel free to contact us about our test reports!

Cleaning and maintenance

We recommend the use of algae and moss removers, impregnators and colour enhancers for maintenance, which are available in DIY stores or building materials stores. These will not harm the ROMEX® products.

In the case of reddish-brown and black types of stone, porcelain stoneware tiles and porphyry paving, an apparent grey-white discolouration of the stone surface may temporarily occur during the weathering phase. This is caused by light refraction, which shines on the weathering and thereby microscopically small breaking synthetic resin film. To counteract this apparent discolouration, it is recommended to use a colour intensifier that restores the colour intensity previously achieved by the synthetic resin film. Alternatively, a resin film/stain remover can be used.

Joints should be cleaned regularly to ensure permanent water permeability. It should be noted that joints are not cleaned with equipment above 125 bar | 1 813 psi. There should also be a minimum distance of 30 cm | 12" between the joint and the high-pressure cleaner. In the case of joints suitable purely for foot traffic pavement jointing mortar with lower strengths must be spaced a minimum of 40–60 cm | 15"–24", depending on the high pressure cleaner used.

At this point, we expressly point out that manufacturers of natural and especially concrete stones advise against cleaning with a high-pressure cleaner so that the structure and colouring of the stone are not negatively affected.

Tools must be cleaned with water immediately after use. Hardened pavement jointing mortar residues can be removed with the special cleaner ROMPOX® - POWERclean.

General notes

We have no direct influence on the correct and thus successful application of our products. We can therefore only guarantee the high quality of our products within the scope of our GTC. The information in our technical data sheets is based on years of experience and we advise you to the best of our knowledge. Liabilities cannot be derived from this. Should a more complex problem arise in a particular individual case, please contact us immediately. We will be happy to support you in solving your problem.

Many ROMEX® pavement jointing mortars can be applied from 0 °C | 32 °F, some only from 5 °C | 41 °F (see respective product data sheet). The maximum temperature for the application of synthetic resin pavement jointing mortars is between 25 °C and 30 °C | 77 °F and 86 °F .

Higher temperatures result in rapid setting and sticking of mortar residues on the stone surface. Jointing work should therefore be carried out in the early morning or late evening. By pre-wetting more intensively with water, the surface to be jointed can be cooled down until a temperature is reached that permits jointing (only applies to water-emulsifiable pavement jointing mortars).

Jointing mortars with the "RPS logo" **(RPS stands for ROMEX®-Protection System)** can be applied in drizzle. It is not necessary to cover the surface during drizzle.

The pavement jointing mortar is not suitable for well jointing. It can slowly dissolve over weeks and months if exposed to continuous water.

For the disposal of our packaging, we have concluded contracts with Interseroh Dienstleistungs GmbH under the manufacturer number 208510. After you have registered with Interseroh, you can have your packaging collected free of charge via the disposal partner network and have it recycled. For registration and questions, Interseroh is available to you by phone, fax or email using the contact details given below.

In general, please ensure that the containers are sorted, completely emptied, drip and trickle-free as well as free of foreign adhesion and uncompacted in the collection containers and that these are made available for collection in a weather-proof, ground-level and freely accessible manner.

Disposal of our packaging

General information

- Definition of completely empty container: max. 3% of the net packaging weight, drip-free, trickle-free and free of foreign deposits
- It is mandatory to use the Interseroh form to order a collection; for hazardous waste / hazardous goods waste, prior notification is required
- The acceptance criteria defined in the information sheets always apply
- The collection containers must be available for collection at ground level, protected from the weather and freely accessible
- The containers must be collected both according to the packaging material and taking into account the contents

Notes on the “normal“ containers

- Containers must not be stacked one inside the other
- Containers must be open (in order to be able to recognize the degree of emptying)

Notes on hazardous waste or goods

- Containers must not be stacked one inside the other
- Containers must generally be closed (in order to prevent undesirable reactions)
- The way of collection and disposal is defined in coordination with Interseroh or the disposal partner

Contracting party for disposals

INTERSEROH Dienstleistungs GmbH
ROMEX® manufacturer number: 208510

- Unmixed liquid components must be disposed of as hazardous waste
- Mixed and reacted components do not require special disposal
- Empty containers can be registered for disposal free of charge via the contract partners of Interseroh

Registration empty containers

Non hazardous filling products
Phone: 02203 9147–1500 I Fax: 02203 9147–1529
Email: tv-entsorgung@interseroh.com

Hazardous filling products

Phone: 02203 9147–1366 I Fax: 02203 9147–1390
Email: emballagen@interseroh.com

A current collection / disposal form must be requested with each collection order in order to take possible legal changes into account. Corresponding leaflets and registration forms for registering completely empty containers **can be downloaded at www.romex-ag.de**

What does work protection look like?

Protective gloves should be used to protect hands. When handling the protective gloves, avoid direct contact with the material. This is particularly the case when taking off the gloves. When putting gloves back on, avoid contact with the soiled surface of the gloves.

To protect the entire body, always wear clothing that is done up, whatever the weather. This includes shoes that are done up and long gloves that reach up the sleeves.

To protect the eyes, always wear tightly closing protective glasses.

Safety instructions when using synthetic resins

Synthetic resins and health

Hardened synthetic resin systems are chemically inert building materials. Materials are described as chemically inert (latin for “inactive, detached, dull”), when they do not or only slightly react under the given conditions with possible reactive partners (i.e. air and water).

At the same time, non hardened individual components may cause physiological effects due to their reactive capability. That is why the technical specifications and safety data sheets by ROMEX® should be heeded as well as the application guidelines by trade associations (see: http://www.bgbau.de).

After the reactive resin has hardened, possible risks are no longer evident as the reactive capability is no longer given. By using simple protective measures, direct contact and thus undesired physiological effects can be avoided.

European Chemical Regulation (REACH)

REACH is a European Union regulation concerning the Registration, Evaluation, Authorisation and restriction of Chemicals which came into force on 1st June 2007. All companies must guarantee safe manufacture and usage of chemical substances. The ROMEX® company group fully complies with this regulation.

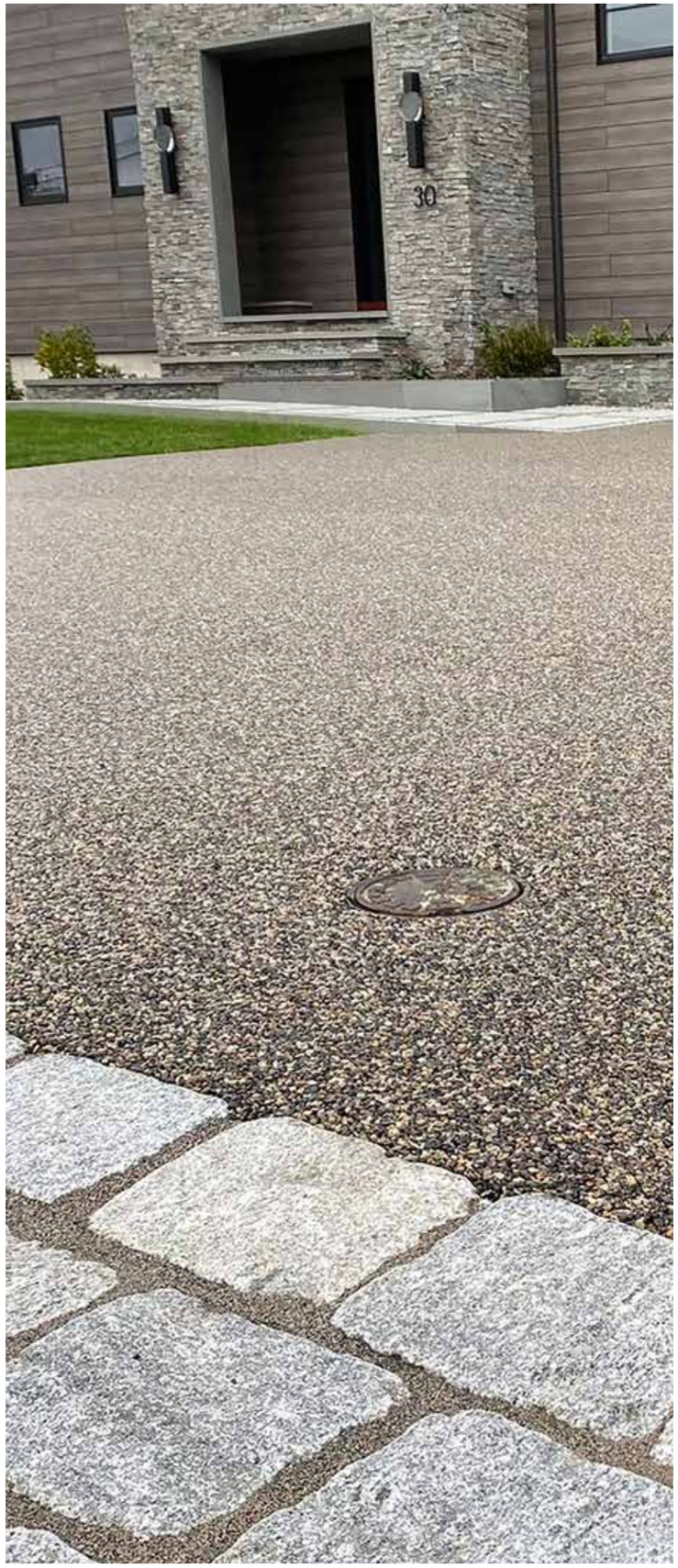
The manufacturers of epoxy resin products need to reassure themselves, that their suppliers have pre-registered or registered their products accordingly, so that future products will be manufactured properly. The expanded safety data sheet needs to take into consideration the expected applications.

The information is important for evaluating possible risks to humans and the environment. The goal is safe handling of the product for the enduser.

Conclusion: When handled correctly and sticking to the recommendations and guidelines, working with epoxy resins and polyurethanes poses no risks. The products have been proven for years and have continuously been developed and are thus excellent for the jointing of paving stones. They fulfill all the requirements for hygiene and environmental protection. We do continuous research and development to ensure that application is even more reliable and simple!

Grit and gravel strengthening

Application
Systems for versatile areas of application



With ROMEX®-Grit- and gravel strengtheners

surfaces of all kinds in a wide variety of areas
can be designed cleanly, practically and decoratively


Joints


Graves


Garden paths


Favourite place


Tree pits


Splash guard

ROMPOX® - DEKO

The decorative grit and gravel hardener

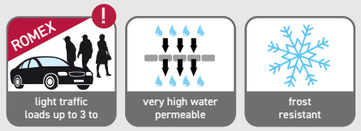
No more loose stones landing on the lawn, the patio or even in the house. With ROMPOX® - DEKO, grit and gravel can be bonded together to create a sure-footed, visually appealing surface. Whether light wells around the house, decorative surfaces, tree surrounds or garden paths, with the 1 component resin binder for washed, dried and dust-free grit / gravel all garden projects can be achieved. The light stability makes ROMPOX® - DEKO especially suitable for light stones. The surfaces are water permeable and easy to clean.

Colour examples for separately bought grit/gravel

Properties

- surface depths from 30 mm | 1 ¼"
- no offensive odour
- highly water-permeable
- frost and de-icing salt resistant
- UV and water resistant

Suitable for light grit/gravel!



APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Superstructure and substructure must be water permeable. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products. For optimum application it is recommended using ROMEX® application tools.

Preparation: Prepare surface for hardening by making sure it is compact and stable to a depth of at least 30 mm | 1 ¼". Adjoining surfaces that are not to be joint-fixed are taped off. Not all grit/gravel bought from the construction trade or DIY shop is clean and dry, therefore it is important to carry out cleaning and drying before using ROMPOX® - DEKO.

Here two types of cleaning:

1. Pour gravel or grit into a concrete mixer, add enough clean water and mix well for at least 1 minute. After completing the mixing process carefully pour the cloudy water out of the mixer. Repeat the process until the emptied water is almost clear and the grit/gravel is clean. Spread the washed gravel in a thin layer on a fleece or mat and allow to dry completely (ideally under direct sunlight).

2. Fill a clean mortar trough with clean water, pour the grit/gravel into a metal basket or similar, dip the metal basket into the mortar trough, and move it up and down until the gravel is cleaned. Then let the grit/gravel dry as described above.

Mixing: See mixing ration in the consumption table

Pour the clean and dry grit/gravel into the pug mill mixer or free fall mixer and start the mixing process. Open the tin within and pour the contents completely into the grit/gravel. In order to fully use the container content, the tin should be scraped out. Total mixing time: at least 6 minutes. **Note:** Store the tin in a warmer environment before use to facilitate emptying since the contents of the tin will flow more easily. Storage of the tin in a cooler environment makes emptying difficult, since the contents of the tin are then somewhat more viscous. In this case, special care must be taken to ensure that the tin is completely emptied. **Basically:** the more tin content is used, the better the end result.

Application: Pour the ready to use mix onto the prepared surface; if necessary, disperse it with a shovel and draw off on the same level in a coat height of at least 30 mm | 1 ¼" with a level rod. Using a mason's trowel, work it in well so it is deep and compact. Trowel surface. Good compacting is essential for a durable end product! Take care to avoid impurities by binding agent and footprints on the stone surface.

Subsequent treatment: The freshly jointed surface needs to be protected against rain for the next 24 hours. The rain protection layer must not be laid directly onto the paved surface, to ensure sufficient air circulation. Particularly heavy used surfaces (e.g. public tree pits) have to install with a surface depth of min. 5 cm. Immediately after the surface has hardened, ROMPOX® - DEKO is painted over the stone surface undiluted using a paintbrush or fur roller as a sealant. This ensures an even better surface strength. Consumption for subsequent sealing: approx. 200-300 ml/m² | 0.05-0.08 gal/sq ft. This process is repeated on average every 3 years.

Important notes: In case of uncertainty, a sample surface should be tested before the entire jointing is done. Washed grit/gravel must be completely dry. In connection with dampness it can lead to loss of strength!

TECHNICAL DATA

System	1-component PU	
Compressive strength	6.3 N/mm² | 914 psi Building site value	DIN 1164 part 7
Bending tensile strength	1.75 N/mm² | 254 psi Building site value	DIN 1164 part 7
Hard mortar raw density	1.65 kg/dm³ | 0.95 oz/in³ Building site value	DIN 1164 part 7
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 7 °C up to max. 30 °C | > 44.6 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability	very high permeable depending on grain size	
Storage life	12 months	
Storage	frostfree, dry	

Approx. consumption per 1 m² at Ø 30 mm surface depth: Pedestrian loads:
1 kg ROMPOX® - DEKO + 50 kg grit/gravel grain size of approx. 2–5 to 8–11 mm | 1/16 –1/4" to 3/8"

Examples: Consumption binding agent grit strengthening per m²*

Material	Density	Minimum depth	Quantity of grit/gravel	Quantity of binder
2–5 mm Granite grit	1 720 kg/m³	3 cm	52 kg	1,0 kg
4–8 mm Grit	1 360 kg/m³	3 cm	41 kg	0,8 kg
8–11 mm Grit	1 420 kg/m³	3 cm	43 kg	0,9 kg
12–16 mm Round gravel	1 580 kg/m³	5 cm	79 kg	1,6 kg
16–22 mm Grit	1 480 kg/m³	7 cm	104 kg	2,1 kg
32–45 mm Round gravel	1 620 kg/m³	15 cm	243 kg	4,9 kg

Approx. consumption per 0,25 m² at Ø 50 mm surface depth: Light traffic loads up to 3 t:
1 kg ROMPOX® - DEKO + 25 kg grain size of approx. 2–5 mm to 4–8 mm | 1/16 –1/4" to 1/8–3/8"

Use only with settlement-free, water permeable bedding and base course. We recommend ROMPOX® - TRASS-BED as bedding mortar. Immediately after hardening of the surface, the ROMPOX® - DEKO binding agent that was used is applied undiluted with a brush or fur roller to the stone surface to act as a sealant. This process ensures an even better surface strength. Consumption for subsequent sealing: approx. 200–300 g/m² | 0.44–0.66 lbs/sq ft.

Examples: Consumption binding agent grit strengthening per m²*

Material	Density	Minimum depth	Quantity of grit/gravel	Quantity of binder
2–5 mm Granite grit	1 720 kg/m³	5 cm	86 kg	3,4 kg
4–8 mm Grit	1 360 kg/m³	5 cm	68 kg	2,7 kg






GENERAL NOTES

* Please note that the calculation of the weight for the grit/gravel is only an approximation. The materials used are natural building materials and are therefore subject to natural fluctuations. When compacted, the volume decreases, by what the demand/quantity increases.

Note on the surface depth: The surface should be three times as deep as the largest grain of the grit/gravel used to obtain a homogeneous and stable surface.

Only washed and dry fillers are to be used.

Effective: June 2020. We reserve the right to make changes.
The information printed in this brochure is based on experiential values and the current levels of knowledge in science and practice, however they are not binding and have no legal force. All previous information becomes invalid with the issue of this brochure. Images similar.

ROMPOX® - PROFI-DEKO

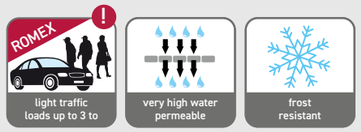
The professional grit and gravel hardener

Your gravel has rolled out. Loose stones on paths or lawns does not have to be. With ROMPOX® - PROFI-DEKO, grit and gravel can be bonded together to create a sure-footed, visually appealing surface. Especially for tree surrounds, on cemetery paths or playgrounds, around benches or for decorative purposes, with the 2-component synthetic resin binder for washed, dried and dust-free grit / gravel all projects can be achieved in public areas. The surfaces are permeable to water and easy to clean.

Colour examples for separately bought grit/gravel

Properties

- surface depths from 30 mm | 1 ¼"
- highly water permeable
- ideal for pathway construction and tree pits
- for professional use
- high strength
- with white and light stones yellowing may occur due to raw materials
- for stones containing calcium carbonate (marble / chalk, sand-lime bricks, etc.) we recommend ROMPOX® - DEKO



APPLICATION

Construction site requirements: The foundation needs to be prepared according to the expected traffic loads. Superstructure and substructure must be water permeable. Regulations and leaflets regarding construction of paved stone surfaces should be heeded. Future loads must not cause the surface to settle or loosen stones. Ideally, you would use ROMEX® Trass-Bed products. For optimum application it is recommended using ROMEX® application tools.

Preparation: Prepare surface for hardening by making sure it is compact and stable to a depth of at least 30 mm | 1 ¼". Adjoining surfaces that are not to be joint-fixed are taped off. Not all grit/gravel bought from the construction trade or DIY shop is clean and dry, therefore it is important to carry out cleaning and drying before using ROMPOX® - PROFI-DEKO.

Here two types of cleaning:

1. Pour gravel or grit into a concrete mixer, add enough clean water and mix well for at least 1 minute. After completing the mixing process carefully pour the cloudy water out of the mixer. Repeat the process until the emptied water is almost clear and the grit/gravel is clean. Spread the washed gravel in a thin layer on a fleece or mat and allow to dry completely (ideally under direct sunlight).

2. Fill a clean mortar trough with clean water, pour the grit/gravel into a metal basket or similar, dip the metal basket into the mortar trough, and move it up and down until the gravel is cleaned. Then let the grit/gravel dry as described above.

Mixing: See mixing ration in the consumption table

Pour the clean and dry grit/gravel into the pug mill mixer or free fall mixer and start the mixing process. Whilst mixing, slowly add the separately packaged 3 kg | 6.6 lbs resin/hardener component completely into the mixture. Total mixing time: at least 6 minutes. Basically: the more tin content is used, the better the end result.

Professional tip: First mix the two components in a clean container for 2 minutes. Afterwards mix the binder with the grit/gravel in the forced or tumble mixer for 1 minute until all the stones are evenly wetted. Total mixing time: at least 3 minutes.

Application: Pour the ready to use mix onto the prepared surface; if necessary, disperse it with a shovel and draw off on the same level in a coat height of at least 30 mm | 1 ¼" with a level rod. Compact the mixture using a light vibratory plate or smoothing trowel and then smooth off the surface. Good compacting is essential for a durable end product! Take care to avoid impurities by binding agent and footprints on the stone surface.

Subsequent treatment: The freshly jointed surface needs to be protected against rain for the next 24 hours. The rain protection layer must not be laid directly onto the paved surface, to ensure sufficient air circulation. Particularly heavy used surfaces (e.g. public tree pits) have to install with a surface depth of min. 5 cm. Immediately after the surface has hardened, ROMPOX® - PROFI-DEKO is painted over the stone surface undiluted using a paintbrush or fur roller as a sealant. This ensures an even better surface strength. Consumption for subsequent sealing: approx. 200-300 ml/m² | 0.05-0.08 gal/sq ft. This process is repeated on average every 3 years.

Important notes: In case of uncertainty, a sample surface should be tested before the entire jointing is done. Washed grit/gravel must be completely dry. In connection with dampness it can lead to loss of strength!

TECHNICAL DATA

Test report no. 53-1607/12 CPH-13478 (Technical datas depent on used grit/gravel)		
System	2-component epoxy resin system	
Compressive strength	13.9 N/mm² | 2 016 psi Building site value	DIN 18555 part 3
Bending tensile strength	4.8 N/mm² | 696 psi Building site value	DIN 18555 part 3
Hard mortar raw density	1.58 kg/dm³ | 0.91 oz/in³ Building site value	DIN 18555 part 3
Application time at 20 °C | 68 °F	20–30 minutes	ROMEX®-norm 04
Application temperature	> 0 °C up to max. 30 °C | > 32 °F up to max. 86 °F At lower temperatures slow hardening, at high temperatures quick hardening	
Re-opening of surface at 20 °C | 68 °F	after 24 hours can be walked on, after 6 days fully load bearing	
Water permeability	very high permeable depending on grain size	
Storage life	24 months	
Storage	frostfree, dry	

Approx. consumption per 1,5 m² at Ø 30 mm surface depth:
Pedestrian loads: e. g. garden paths, flower beds, spray protection strip or tree pits
3 kg resin/hardener component ROMPOX® - PROFI-DEKO + 75 kg | 165 lbs (3×25 kg | 3 55.1 lbs) grit/gravel (grain size of approx. 2–5 mm | 1/16 –1/4")

Examples: Consumption binding agent grit strengthening per m²*

Material	Density	Minimum depth	Quantity of grit/gravel	Quantity of binder
2–5 mm Granite grit	1 720 kg/m³	3 cm	52 kg	2,1 kg
4–8 mm Grit	1 360 kg/m³	3 cm	41 kg	1,6 kg
8–11 mm Grit	1 420 kg/m³	3 cm	43 kg	1,7 kg
12–16 mm Round gravel	1 580 kg/m³	5 cm	79 kg	2,4 kg
16–22 mm Grit	1 480 kg/m³	7 cm	104 kg	3,1 kg
32–45 mm Round gravel	1 620 kg/m³	15 cm	243 kg	7,3 kg

Approx. consumption per 0,7 m² at Ø 50 mm surface depth:
Light traffic loads up to 3 t: i.e. Privately used driveways or car parking spaces
3 kg resin/hardener component ROMPOX® - PROFI-DEKO + 50 kg | 110 lbs grit/gravel
grain size from approx. 2–5 mm to 4–8 mm | 1/16–1/4" to 1/8–3/8"

Use only settlement-free, water permeable bedding and base course. We recommend ROMPOX® - TRASS-BED as bedding mortar. Immediately after hardening of the surface, the ROMPOX® - DEKO binding agent that was used is applied undiluted with a brush or fur roller to the stone surface to act as a sealant. This process ensures an even better surface strength. Consumption for subsequent sealing: approx. 200–300 g/m² | 0.44–0.66 lbs/sq ft.

Examples: Consumption binding agent grit strengthening per m²*

Material	Density	Minimum depth	Quantity of grit/gravel	Quantity of binder
2–5 mm Granite grit	1 720 kg/m³	5 cm	86 kg	5,2 kg
4–8 mm Grit	1 360 kg/m³	5 cm	68 kg	4,1 kg

GENERAL NOTES

* Please note that the calculation of the weight for the grit/gravel is only an approximation. The materials used are natural building materials and are therefore subject to natural fluctuations. When compacted, the volume decreases, by what the demand/quantity increases.

Note on the surface depth: The surface should be three times as deep as the largest grain of the grit/gravel used to obtain a homogeneous and stable surface.

Only washed and dry fillers are to be used.

„Golden Tree" on Marine Drive and Cambie Street, Vancouver, BC – Canada

ROMPOX® - DEKO
ROMPOX® - PROFI-DEKO

Thanks to our research and development department, we are always able to improve conventional products and working methods in order to offer reasonable alternatives. The decorative grit and gravel strengtheners ROMPOX® - DEKO and ROMPOX® - PROFI-DEKO. They represent the modern solution for tree surrounds, walkways and representative surfaces and have replaced the classic tree surrounds made of metal thanks to their numerous advantages. In addition, these products can be used to create barrier-free surfaces. The public sector - such as footpaths - is seeing an improvement in quality in a variety of ways.

The difference:
ROMPOX® - DEKO vs. ROMPOX® - PROFI-DEKO

The difference between the two products already begins with the raw material base. ROMPOX® - DEKO is a 1-component PU resin, while ROMPOX® - PROFI-DEKO is a 2-component EP resin. This makes DEKO significantly more resistant to UV rays, which makes it particularly suitable for light coloured gravel and grit. PROFI-DEKO, as the term suggests, is designed for the professional user in public areas. Thanks to it's strong adhesive power it is ideal for tree surrounds or footpaths subjected to permanent loads.

ROMPOX® - PROFI-DEKO vs. metal tree surrounds

The advantages are obvious: a conventional metal tree surround is expensive in material, processing and maintenance. ROMPOX® - PROFI-DEKO, on the other hand, convinces with a shorter processing time, significantly lower costs and, in principle, higher environmental friendliness. Good arguments for municipalities, where sustainability is important.

Calculation example: A conventional metal tree surround costs between 700 and 800 euros, the substructure a little more than 400 euros, the bed foundation around 600 euros. With the tree surround, expert fitting and operating costs, total costs of more than 2.700 euros are quickly reached. Fitting takes up to eight hours. The installation has to be cleaned again and again, which can lead to high maintenance costs.

The opposite is true for ROMPOX® - PROFI-DEKO, because the modern solution for tree surrounds saves time and money: the product costs approx. 80–100 euros per package, and in general two containers are required. In addition, there are four bags of grvel / grit of 25 kg | 55.1 lbs for a maximum of 40 euros. Expert laying costs 100 euros, the operating costs for the installation are quoted as 10euros. Overall, the cost is 350–450 euros - a fraction of what the classic tree surround costs. In addition, the solution from the Euskirchen company is clean and environmentally friendly: ROMPOX® - PROFI-DEKO is water-permeable and even grows with the tree. Since it can be used flexibly, there are various possibilities of design. And since the cleaning is so easy and simple, the follow-up costs are limited.

ROMPOX® - PROFI-DEKO
400 m² | 4 305 sq ft of tree surrounds/tree pits
on the Budapester promenande Duna-korzó

Barrier free surfaces

A subject that is dismissed far too frequently!

People with difficulty walking should be able to use public areas without outside help. The needs of these people should be taken into consideration with regard to road and pathway laws as well as in construction. Freedom from barriers is the key idea.

This means, that amongst other things, public areas should be made in such a way, that even if people have a disability, they are able to use these areas without hindrance (Law for the equality of disabled persons BBG §8 or §4 of the disabled persons equality law NRW).

By using ROMEX® grit and gravel strengthener, paths, surfaces and tree pits can be made barrier free and water permeable.

The product fulfills the requirements for de-sealing and water permeability 100 %!

Smooth with sharp edge

Smooth

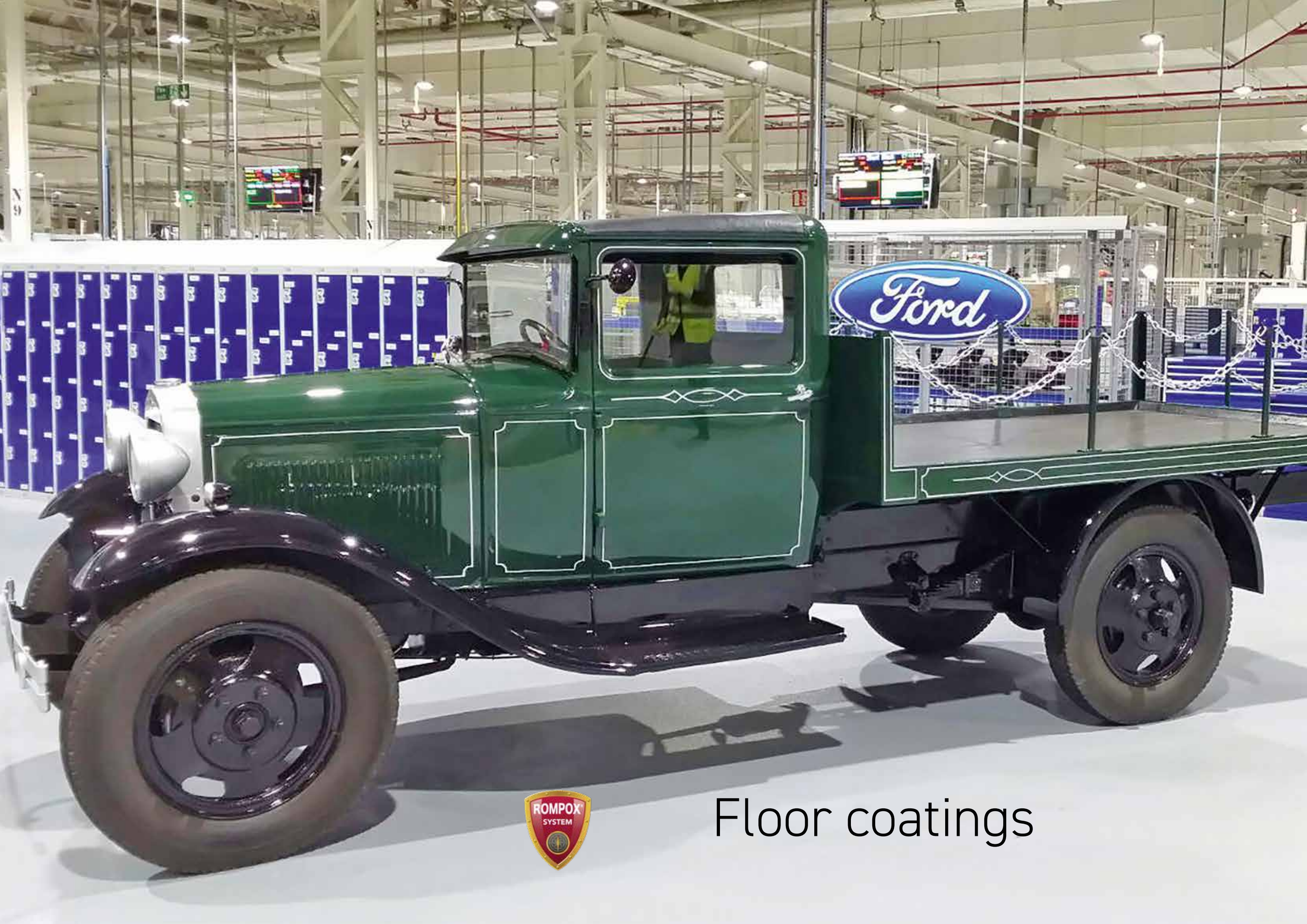
The perfect solution for tree surrounds

Save time and money.

A ROMEX® tree surround offers many advantages compared to the usually used metal tree grates:

- cheaper to buy
- lower subsequent costs
- easy to clean
- many design possibilities
- water permeability
- grows with the tree

When installing tree surrounds, an approx. 10 cm | 4" strip is left free around the tree trunk to avoid damage as the tree grows



Floor coatings

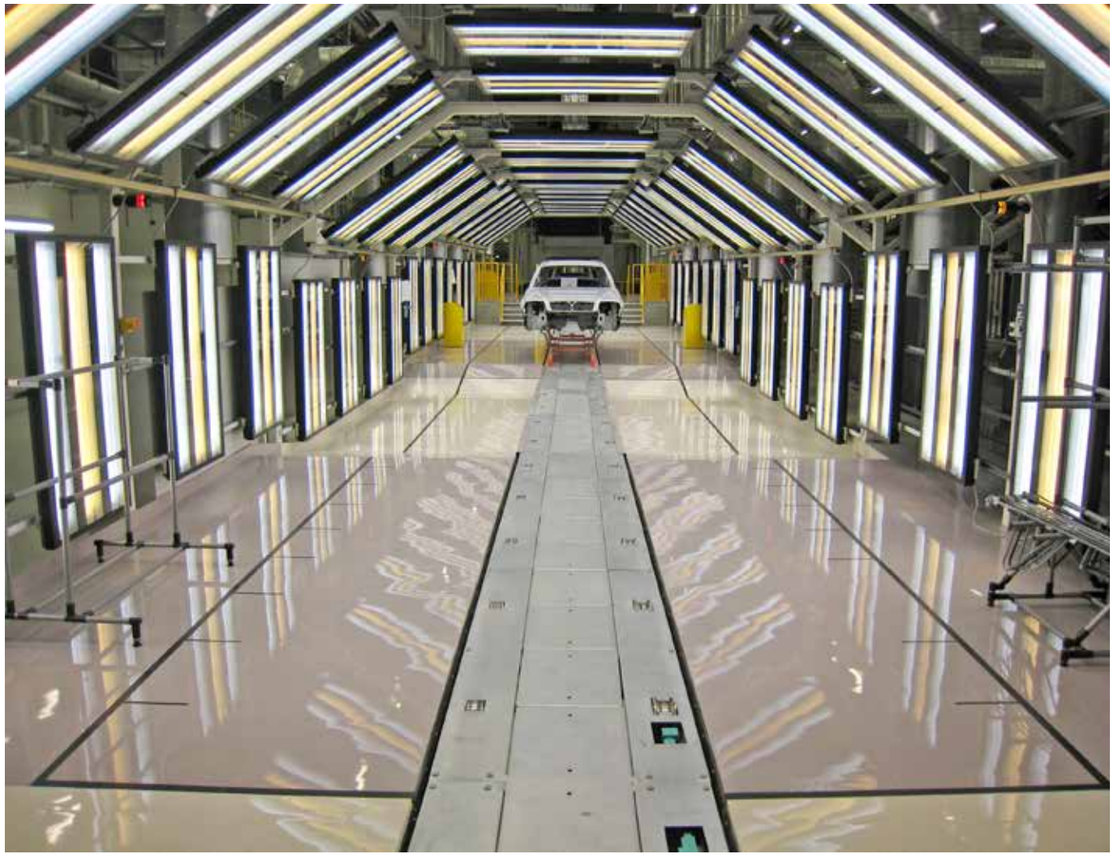
Fields of application
of our
floor coatings

Always the right **coating system**

ROMEX® grew up in the contract business. For over 25 years we have been involved in the realization of construction projects worldwide. Since every project is unique, we accompany our customers and prospects from the beginning with individual care and support. For the best possible realization of your project we offer tailor-made system solutions and support the project to the final acceptance, so that in the end all parties involved are satisfied: architect, planner, builder and the contractor. Because our experience is your success.

Our credo: Success requires reliable partnerships. We know that, too. That's why we take care that our partners are compatible and act internationally in the field of floor coatings and paving mortar with personal contact and competent advice. As part of our partner concept, we work closely with trained people and certified laying companies.

Specifically: We have the right contractor for your project who will submit you an offer with our high quality systems. As responsible material manufacturer, we not only advise, but remain your constant contact for all concerns about the project.



Floor coatings for the automobile industry

Systems tailored to the needs of automobile manufacturers and suppliers

The requirements for a floor coating for the automobile industry are many sided. Depending on the work or production area, there are a variety of requirements for the floor. The coating in the Press Shop is different to the one in the Paint Shop, the wind tunnel needs a different coating compared to the warehouse. Whereas on a concrete floor, a standard floor coating can be applied, with a steel floor, elastic coating must be used. ROMEX® offers tailor-made solutions for all areas of your business.

Properties

- Mechanically highly load bearing
- Very high abrasion strength
- Chemically resistant
- For highly visually attractive requirements
- WHG system is possible (§ 19 WHG)
- Can be made smooth or nonslip
- Elastified, can be made to bridge cracks
- Easy to clean
- Smooth, glossy or matt surfaces
- Can be made electrostatically conductive (ESD)
- Can be made as a structured coating (thix/ studded/orange peel structure)

Floor coatings for the electronics industry, IT

Conductive systems for the electronics industry

Properties

- Electrically conductive (EA & ESD)
- Various layer thicknesses are possible
- Just one abrasion layer
- Homogenous and shiny surface
- Mechanically load bearing
- Highly abrasion resistant
- High compressive strength
- Chemically load bearing
- Viscous elastic
- Joint free
- Solvent free

During the manufacture of electronic components, voltage damage often occurs. This is caused by unregulated electrostatic discharge. Thanks to the ESD coating especially developed for this purpose, regulated voltage can be guaranteed. This electrostatically conductive floor coating ensures that the required leak resistor and all other DIN requirements are met at all layer thicknesses. We are happy to offer individual consultation.

Floor coatings in pharmaceuticals, clinics, laboratories and cleanrooms

Chemically highly resistant systems for the pharmaceutical industry

The clinics, pharmaceutical industry and medical technology (clean room, chemistry, pharma, clinic, laboratory) are among the most sensitive areas in the creation of high-quality services and products. The right floor in clean rooms is crucial to the whole quality standard and therefore must meet the highest standards of protection of persons and products. Clean room coatings are joint free, abrasion resistant and dust free. This makes the floor coating hygienically and microbacterially sound, because there are no areas liable to contamination such as when there are joints. The ROMEX® clean room coatings for floors, but also walls and ceilings, keep the dust particle contamination below the required maximum values - whether dust-free, hygienic, chemical (highly) resistant, electrically conductive, physiologically sound, easy to clean and tested by the health committee for the evaluation of construction products (in short: AgBB).

Properties

- Dustfree
- Hygienic
- Easy to clean (can be decontaminated)
- Chemically resistant
- Mechanically highly load bearing
- Boat formation and jointfree
- Watertight
- Bridges cracks
- Thermically highly load bearing
- Can be made electrostatically conductive (ESD)
- High abrasion strength
- For clean rooms acc. to 14644

Floor coatings for the food and drinks industry

Chemical-resistant and slip-proof systems for the food industry

MEGGLE · Nestlé · DANONE · pepsi · METRO

Properties

- Is in accord with all European Community hygiene regulations
- Chemically resistant against lactic acid, salt, preservatives and cleaning agents
- Resistant to high mechanical loads
- Resistant to high thermal loads
- Has a boat shape form and is joint free
- Water tight
- Nonslip according to German trade cooperative association guidelines and DIN 51 130
- After hardening, ROMEX® products are free of volatile organic compounds (VOC) and thus do not affect production or products in any form

The correct floor in the food and drinks industry is vital for the entire quality standard of a company and their products. Work and hygiene safety need to take priority. Untreated concrete floors, screeds or joints between tiles, do not offer the best protection, because bacteria, fungus and other germs can take hold here and thus become dangerous to the hygiene in the company. ROMEX® offers individual, coating systems for all areas, tailored perfectly to the needs of the user.

Coatings for carparks and underground carparks

Weather and abrasion resistant systems for all parking areas

Carparks and underground carparks are subjected to heaviest mechanical, chemical and thermal loads such as through abrasion of the road surface, soiling from oil and petrol as well as damp from the weather. Particularly in winter when ice, snow and agressive salt is brought into the carpark. In order to guarantee the best possible protection for trafficked concrete surfaces, ROMEX® supplies the best OS8 tested systems for all areas such as entrances and ramps, road ways and parking spaces, open air parking decks and surfaces in contact with the ground. We are happy to offer individual consultation

Properties

- Can be made nonslip, depending on sanding - high to very high
- Very high abrasion strength
- Viscous hard floor covering, resistant to vehicles and forklifts
- Fillable with firedried quartz sand
- Solvent free
- Good chemical resistance

Coatings for stadium stands and stadium boxes and multi purpose arenas

Cost effective and slip safe systems for all areas in the stadium

Properties

- Protection
- Sealing
- Security
- Longevity
- Comfort
- For highly visually attractive requirements

Requirements for spectator stands in stadiums are getting ever more strict. The owners of the stadiums, as well as the spectators themselves, require ever more safety, comfort, longevity and visual attractiveness for the areas in which the spectators will be. As well as the spectator stands, there are numerous other public and non-public areas for which the correct floor coating is very important. This includes changing rooms, treatment rooms, sanitary areas as well as all restaurant areas.

Coatings in heavy industry and mechanical engineering

Tailor-made coating systems in heavy industry

In production areas, especially in heavy industry and in mechanical engineering, industrial floors are subject to extremely heavy loads. Coatings must be mechanically highly load bearing, shock and abrasion resistant. There is also the need for thermal and chemical resistance, depending on type of products. To meet these high demands, ROMEX® offers a coating system that is tailored to the individual requirements of the respective production company. There are also mortar systems for underpouring and anchoring of machinery and equipment as well as for anchoring and repair of construction elements and bridge structures. We guarantee the best solution for your production.

Properties

- Mechanically highly load bearing
- Very high abrasion strength
- Chemical resistant
- Can be made smooth or nonslip
- Elastified, can be made to bridge cracks
- Easy to clean
- Smooth, glossy or matt surfaces
- Can be made as a structured coating (thix/studded/orange peel structure)

Floor coatings for warehouses with Logistics and Distribution

Abrasion resistant and mechanically highly load bearing systems for the logistics industry

Properties

- Mechanically highly load bearing
- Very high abrasion strength
- Viscous hard floor covering, resistant to vehicles and forklifts
- Chemically resistant
- Can be made smooth or nonslip
- Elastified, can be made to bridge cracks
- Easy to clean
- Smooth, glossy or matt surfaces
- Can be made as a structured coating (thix/studded/orange peel structure)

Floor coatings in warehouses and logistics halls are constantly under highest mechanical and often thermal loads, for example, by forklift traffic, deposits of oil and gasoline as well as weather-related moisture when forklifts move between hall and outdoor areas. Especially in the cold season, ice, snow and especially aggressive salt are brought into the warehouses. This happens when forklifts move between warehouse and outdoor storage areas or loading ramps. Our systems for storage areas are highly loadbearing and can withstand any loads/stress that occurs. With lining and marking colors you can mark out running, driving and storage areas thus ensuring the necessary safety and order in the warehouse.

Floor coatings for private and commercial areas

High-quality floor and wall sealant that can also be applied by airless spraying.

Airless spray method

Properties

- For use indoors and outdoors
- Suitable for surfaces that touch the ground
- Fulfills fire classification B1 (Bfl-s1 flame resistant)
- Primer and sealant in one
- Water soluble
- Solvent free
- Environmentally friendly
- Open to steam diffusion/ water vapor permeable
- Chemically resistant
- Lightly structured surface
- Can be applied using airless spray method

In order to make the many years of positive experience with top industrial products also available for private use, ROMEX® has adapted two of its coatings. Thanks to the adaptation to the needs of home users and craftsmen, a very easy to use, universally applicable sealant and a high quality coating were formulated. These products are available through specialist retailers.

- High quality floor and wall sealant
- Extremely loadbearing
- Easy application
- Modern solutions for garages, cellars, industrial and work halls as well as many more
- For indoor and outdoor use

Visually appealing, easy to use coating system for garages, cellars and hobby rooms. The 2 component multi sealant is an extremely loadbearing sealant for garages, cellars, warehouses and industrial halls indoors and outdoors. Floor, wall and ceiling surfaces can be sealed user friendly.

ROMPOX® 1009 is perfect for the sealing of cementbound surfaces – including those with rising damp. Because of it's good water vapor permeability, the sealant is also suitable for magnesite and anhydrite screeds with light mechanical loads, as well as for use on hardcast asphalt indoors.

ROMPOX® 1009 can also be applied using the airless spray method for quick work on large surface areas, when 10 % water is added.

Equipment must be cleaned each time it is not in use. The cleaning is done by carrying out the spray process with water until no material is left in the system. The final cleaning is done using water plus 10 % solvent (preferably ethanol).

ROMEX® offers the product ROMPOX® 1009 in two standard colors. For large size industrial areas, the product ROMPOX® 1009 is available as a sealant and ROMPOX® 1010 as a thick coating, availabe in large containers and many colors.

Before

After: 15 m² Garage

Before

After: 500 m² Showroom at HotSpring in Gerasdorf, Austria

Tailor-made
systems

ROMEX®-system solutions

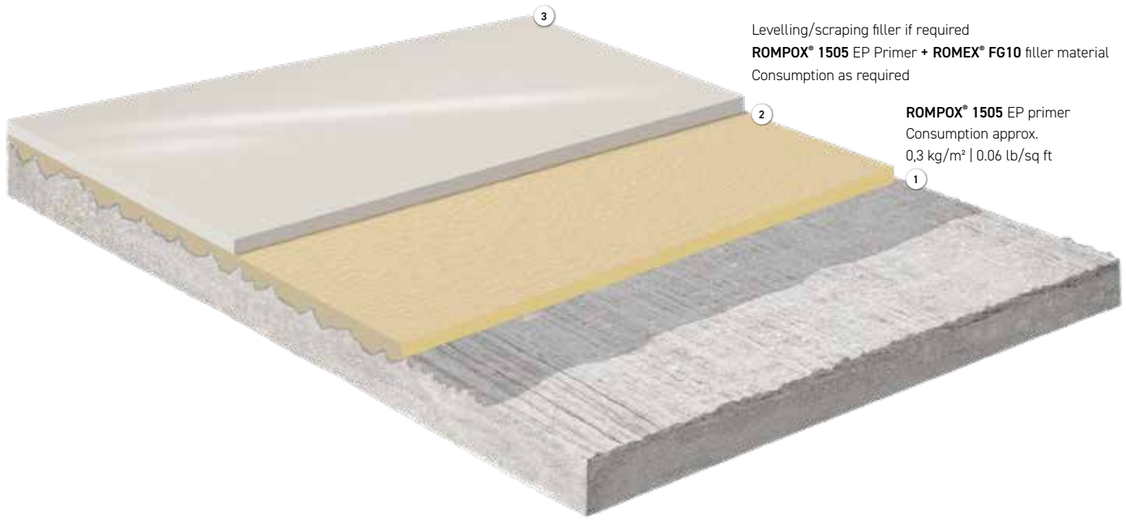
As specialists with decades of experience in the construction project business, ROMEX® brings you tested and certified systems of the highest quality. For the best possible realization of your construction project we offer tailor-made system solutions and accompany your project until the final acceptance. The quality of our systems is ensured by specially developed quality standards, which go far beyond the generally applicable standards.

Our durable 2-component epoxy resin primers provide optimal protection for almost any surface. Whether on steel, concrete, anhydrite and magnesite screeds or asphalt / bitumen, the primers by ROMEX® are perfectly matched to the respective substrate. Our high-quality floor coatings are characterized by their high resilience, their slip resistance and chemical resistance. In addition to tested systems such as our OS 8 coating for multi-storey car parks and underground car parks, ROMEX® is one of the leading suppliers of ESD coatings.

ROMEX® coating systems are rounded off with our floor and wall sealants. Our EP and PU sealers provide optimum protection for almost any surface. We leave nothing to be desired and offer our customers glossy sealants with mirror effect, as well as matt surfaces. Rough or smooth, colored or transparent, plain or decorative. ROMEX® offers the right solution for every requirement.

ROMEX® Standard system

High quality, solvent free and pigmented self-levelling coating, epoxy resin based



Areas of application

ROMPOX® 1005 is a ready to use, pigmented, self-levelling, viscous hard floor coating for cement bound and metallic surfaces in areas subject to chemical and mechanical loads. It is especially suitable for the production of high quality industrial goods such as in the electronics industry, pharma industry, automotive industry, mechanical engineering and in nuclear power stations.

Surface requirements before application

- ▷ The surface must be loadbearing, even, dry and free of oil, grease, separators and dust.
- ▷ Loose particles and other dirt must be removed.
- ▷ In general, the surface should be prepared by shotpeening.
- ▷ If necessary: pre-treat surface by grinding or milling
- ▷ The adhesion strength of the surface needs to be ›1,5 N/mm² | 218 psi
- ▷ Before coating the concrete surface must be primed using a primer such as ROMPOX® 1505 (depending on type of surface) and evened out using a scraping filler such as ROMPOX® 1505, in order to achieve an extremely smooth surface.
- ▷ For cement surfaces with residual moisture ‹ 4 CM-%: ROMPOX® 1505
- ▷ For higher residual moisture ‹ 6 CM-%: ROMPOX® 1506
- ▷ For higher residual moisture > 6 CM-%: ROMPOX® 1504
- ▷ Highly porous surfaces need to be primed twice!
- ▷ In all cases, it is necessary, that after priming, all pores on the surface are sealed.
- ▷ Metal surfaces should be treated according to the Swedish norm SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101.

Due to the numerous variations in surfaces – especially with old coatings – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

Please note:
It is recommended to have a minimum consumption of ROMPOX® 1005 (resin and hardener mixture) of 1,8 kg/m² | 0.37 lb/sq ft = approx. 1,2 mm | 0.05" layer thickness!

In case of surface and material temperatures below +15 °C, or when going below the thaw/melting point distance, self-levelling and surface damage as well as adhesion problems for the coating system may occur.

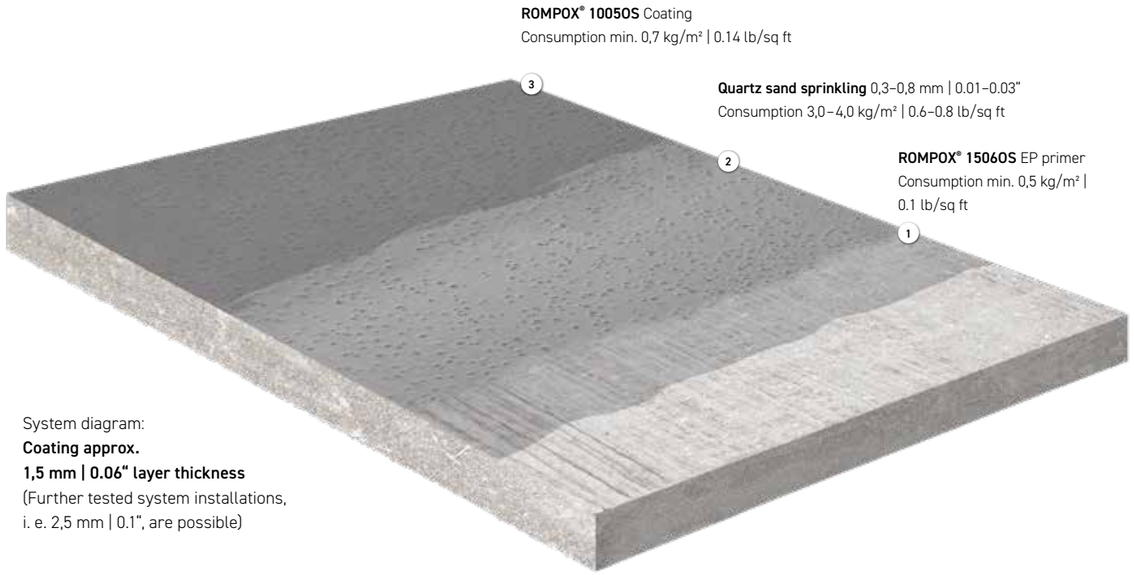
Smaller surfaces with metallic foundations can be primed with ROMPOX® 1101 and coated with ROMPOX® 1005, if the surfaces are free of movement and are not subjected to large or sudden temperature changes.

Properties

- High gloss
- Can be decontaminated
- Easy to clean
- Watertight
- Viscous hard floor covering,
- Resistant to forklifts
- Very high abrasion strength
- Solvent free
- Good chemical resistance
- Very good levelling and aeration properties

ROMEX® Carpark system OS 8

High quality, solvent free, pigmented epoxy resin coating for sprinkled, non slip surfaces.
As a system, tested according to surface protection classification 8 (OS 8)



System diagram:
Coating approx.
1,5 mm | 0.06" layer thickness
(Further tested system installations,
i. e. 2,5 mm | 0.1", are possible)

Areas of application

Tested system for carparks, underground carparks, entry and exit ramps, parking and driving areas indoors. Test certificate for OS 8 system acc. to DIN EN 1504-2 and DIN V 18206 for the protection and maintenance of concrete support structures. Not suitable for surfaces exposed to the weather without a roof.

Surface requirements before application

- ▷ The surface must be loadbearing, even, dry and free of oil, grease, separators and dust.
- ▷ Loose particles and other dirt must be removed.
- ▷ In general, the surface should be prepared by shotpeening.
- ▷ In some cases it may be necessary to carry out grinding or milling.
- ▷ The minimum adhesion strength of the surface must be ›1.5 N/mm² | 218 psi.
- ▷ Before coating the concrete surface must be primed using a primer such as ROMPOX® 1505 (depending on type of surface) and evened out using a scraping filler such as ROMPOX® 1505, in order to achieve an extremely smooth surface.
- ▷ For cement surfaces with residual moisture ‹ 4 CM-%: ROMPOX® 1506OS
- ▷ For higher residual moisture ‹ 6 CM-%: ROMPOX® 1506
- ▷ For higher residual moisture > 6 CM-%: ROMPOX® 1504
- ▷ Highly porous surfaces need to be primed twice!
- ▷ In all cases, it is necessary, that after priming, all pores on the surface are sealed.
- ▷ Metal surfaces should be treated according to the Swedish norm SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101.

Due to the numerous variations in surfaces – especially with old coatings – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

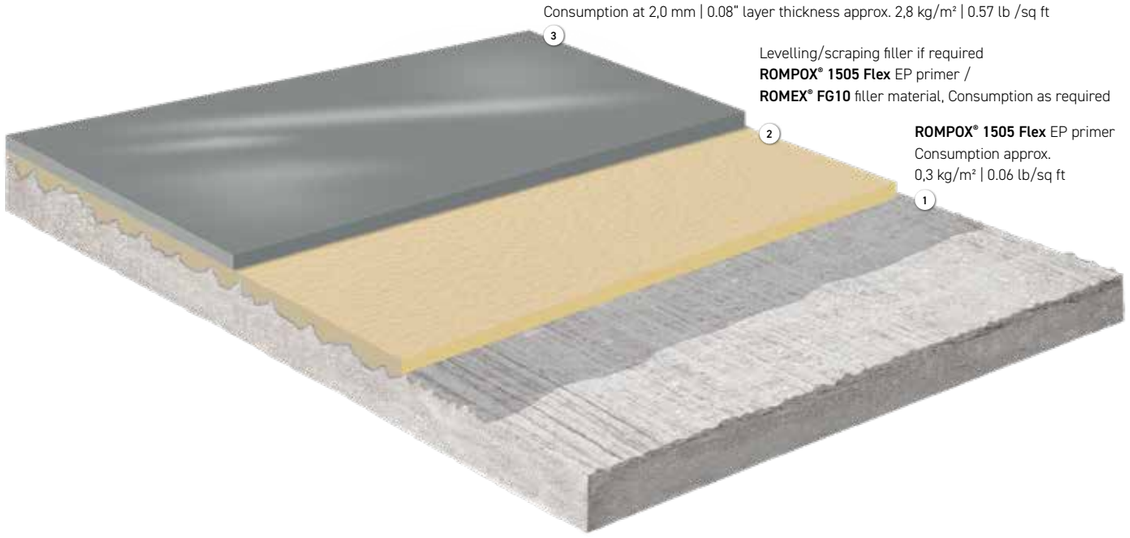
Please note:
Attention! When installing according to Rili-SIB (2001), the corresponding AbP should be heeded, according to DIN V 18026 the information for execution.

Properties

- Can be made nonslip, depending on sanding - high to very high
- Very high abrasion strength
- Viscous hard floor covering,
- Resistant to vehicles and forklifts
- Fillable with firedried quartz sand
- Solvent free
- Good chemical resistance

ROMPOX® 1080 Elastic system

Elastic coating system for crack bridging, can be used especially for steel surfaces and poured asphalt.



Areas of application

ROMPOX® 1080 is an elasticized floor coating with special resistance to impact. The system is pigmented, self-levelling, chemical resistant and easy to clean. Surfaces can be created using chip sprinkling. Suitable for new construction and renovation of cementbound surfaces, hardcast asphalt floor coverings indoors as well steel plates indoors. Areas of application are mechanically and chemically contaminated areas in the printing industry, in chemical companies, sewage plants, petrol stations and in the petroleum industry. In addition, it can also be used in areas of the aviation and automotive industry, paint shops, clean rooms and stadium stands. ROMPOX® 1080 can be used as elastic sealing material for sprinkled, non-slip coatings. Crack bridging ability acc. DIN EN 1062-7: 2004 up to 0.3 mm | 0.012".

Surface requirements before application

- ▷ The surface must be loadbearing, even, dry and free of oil, grease, separators and dust.
- ▷ Loose particles and other dirt must be removed.
- ▷ In all cases, the surface should be prepared by shotpeening or similar and then primed.
- ▷ In some cases it may be necessary to carry out grinding or milling.
- ▷ The adhesion strength of the surface needs to be ⩾1.5 N/mm² | 218 psi
- ▷ Residual moisture of the concrete must be ⩽4 CM% (CM machine).
- ▷ Before coating the concrete surface must be evened out using a primer or scraping filler such as ROMPOX® 1505, in order to achieve an extremely smooth surface.
- ▷ For cement surfaces with residual moisture ⩽ 6 CM-%: ROMPOX® 1506
- ▷ For higher residual moisture > 6 CM-%: ROMPOX® 1504
- ▷ Highly porous surfaces need to be primed twice!
- ▷ In all cases, it is necessary, that after priming, all pores on the surface are sealed.
- ▷ Metal surfaces should be treated according to the Swedish norm SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101.

Hard poured asphalt indoors is primed using ROMPOX® 1505 Flex, or evened out using ROMPOX® 1080, in this case, in order to ensure optimum adhesion, at least 80% of the additives in the hard poured asphalt surface must be laid bare (by grinding, shotpeening etc.).

Due to the numerous variations in surfaces – especially with old coatings – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

Please note:

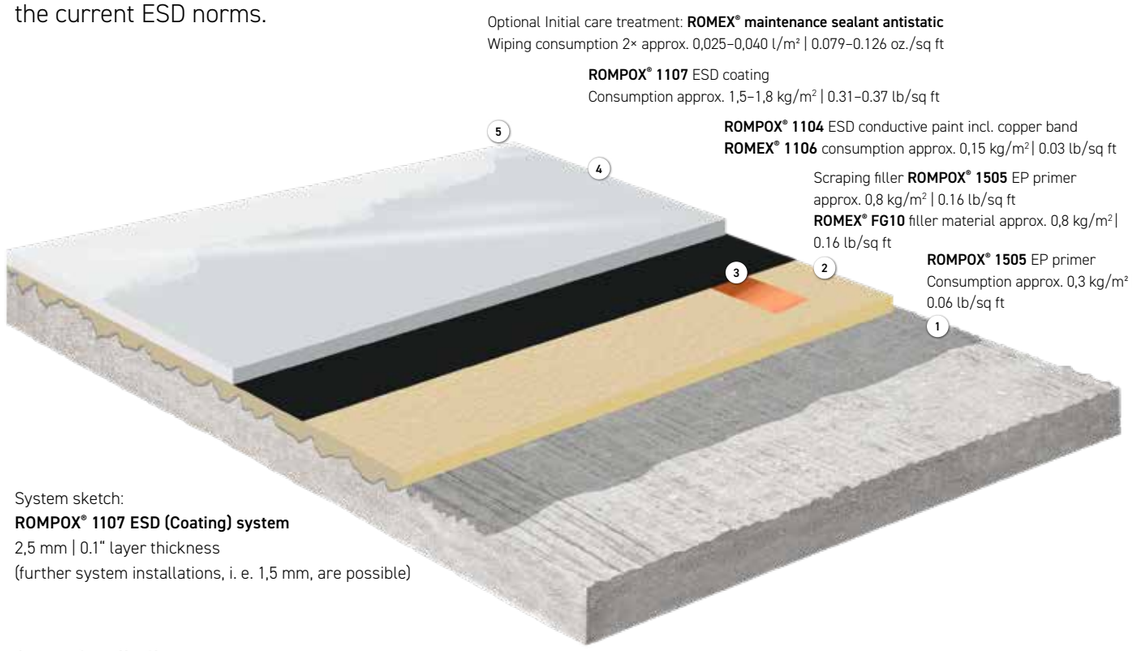
When working indoors, sprinkling does not need to be carried out on the primer and scraping filler if it is ensured that subsequent work is carried out no later than after 48 hours.

Properties

- High gloss
- Very good levelling and aeration properties
- Elastified, bridges cracks up to 0,3 mm | 0.012" with static cracks (ROMPOX® 1080: 2,8 kg/m² | 0.57 lb /sq ft
- Chemically resistant
- Solvent free
- Resistance to yellowing
- Suitable for poured asphalt

ROMPOX® 1107 ESD-System

Electrostatically conductive coating system for areas with sensitive components according to the current ESD norms.



System sketch:
ROMPOX® 1107 ESD (Coating) system
2,5 mm | 0.1" layer thickness
(further system installations, i. e. 1,5 mm, are possible)

Areas of application

ROMPOX® 1107 ESD coating is an electrically conductive, mechanically and chemically loadbearing self-levelling coating. It is used in manufacturing areas in the electronics industry, circuit board manufacture, laboratories, operating theatres, computer rooms and in the automotive industry as well as for use in other areas with EPA requirements. It fulfills the requirements according to DIN EN 61340-5-1. ROMPOX® 1107 ESD fulfills the location junction resistance according to VDE 0100-600 (2008) electrode 1 (tripod electrode) of >50.000 Ohm, according to the tolerance limit requirements of VDE 0100-410. ROMPOX® 1107 ESD coating is an easy to clean coating combined with high abrasion strength. It is chemically resistant to alkalis, saline solutions and diluted acids as well as mineral oils.

Surface requirements before application

- ▷ The surface must be loadbearing, even, dry and free of oil, grease, separators and dust.
- ▷ Loose particles and other dirt must be removed.
- ▷ In all cases, the surface should be prepared by shotpeening or similar and then primed.
- ▷ In some cases it may be necessary to carry out grinding or milling.
- ▷ The adhesion strength of the surface needs to be ⩾1.5 N/mm² | 218 psi
- ▷ Residual moisture of the concrete must be ⩽4 CM% (CM machine).
- ▷ Before coating the concrete surface must be evened out using a primer or scraping filler such as ROMPOX® 1505, in order to achieve an extremely smooth surface.
- ▷ For cement surfaces with residual moisture ⩽ 6 CM-%: ROMPOX® 1506
- ▷ For higher residual moisture > 6 CM-%: ROMPOX® 1504
- ▷ Highly porous surfaces need to be primed twice!
- ▷ In all cases, it is necessary, that after priming, all pores on the surface are sealed.
- ▷ Metal surfaces should be treated according to the Swedish norm SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101.

Due to the numerous variations in surfaces – especially with old coatings – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

Please note:

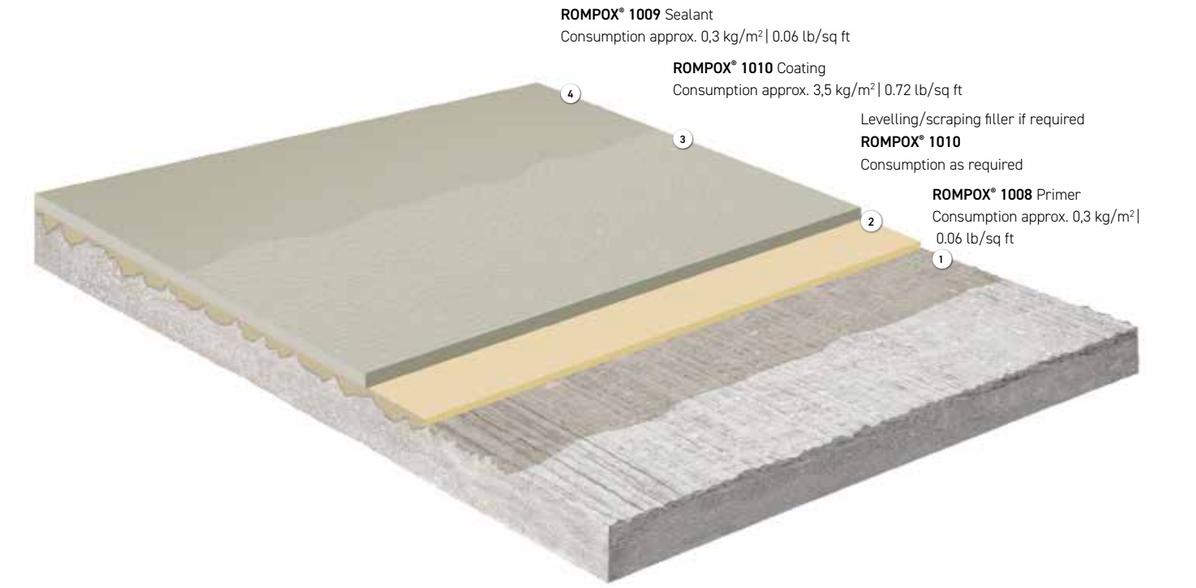
For better aereation use a metal pinfeed platen. The maximum consumption of ROMPOX® 1107 ESD coating is 1.8 kg/m² and must not be exceeded. Conductive value measuring can be carried out from day three, protocol measuring from day seven. If the surface is at risk of rising damp, then to prevent osmosis, apply ROMPOX® 1506 or ROMPOX® 1504 with at least 2 × 0,300 kg/m² | 0.06 lb/sq ft. Due to the conductive nature, technical deviations may cause slight colour deviations. Higher layer thickness also affect the electrical properties and lead to increased resistances. Depending on conditions, whilst hardening a light surface film may form which can be wiped away with water. From relative air humidity of below 25%, resistance may increase, this decreases again with normal room climates.

Properties

- Electrically conductive self-levelling coating for increased ESD protection requirements
- Fulfills the requirements acc. to DIN EN 61340-5-1 for ESD areas and EPA zones ("human-shoe-floor", Walking Test with maximum charging of < 100 Volt)
- Fulfills the location junction resistance according to VDE 0100-600 (2008) electrode 1 (tripod electrode) of >50.000 Ohm, according to the tolerance limit requirements of VDE 0100-410.
- Balanced mechanically and chemically loadbearing
- Homogeneous, coloured surface
- Solvent free

ROMPOX® Open to steam diffusion system

Open to steam diffusion coating system for all surfaces with rising damp



Areas of application

ROMPOX® 1010 is used as a water vapor-diffusible self-levelling coating for cementbound surfaces indoors and outdoors. Main application area is the coating of floor surfaces with rising damp i.e. in warehouses, workshops and garages and as a special application for coating magnesite and anhydrite surfaces.

Surface requirements before application

- ▷ The surface must be loadbearing, even, dry and free of oil, grease, separators and dust.
- ▷ Loose particles and other dirt must be removed.
- ▷ In general, the surface should be prepared by shotpeening and a primer should be applied.
- ▷ If necessary: pre-treat surface by grinding or milling.
- ▷ Damp surfaces can be treated, but must not have any standing water on them.
- ▷ Please note: magnesite and anhydrite surfaces can be sealed when residual moisture content is 0.5 CM.-% (unheated) and 0.3 CM.-% (heated).
- ▷ Highly porous as well as magnesite and anhydrite surfaces need to be primed with ROMPOX® 1009 2 × 0,3 kg/m² | 0.06 lb/sq ft.
- ▷ In all cases, it is necessary, that after priming, all pores on the surface are sealed.
- ▷ For surface roughness greater than 0,5 mm | 0.02", scraping filler made with ROMPOX® 1009 should be used.

Due to the numerous variations in surfaces – especially with old coatings – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

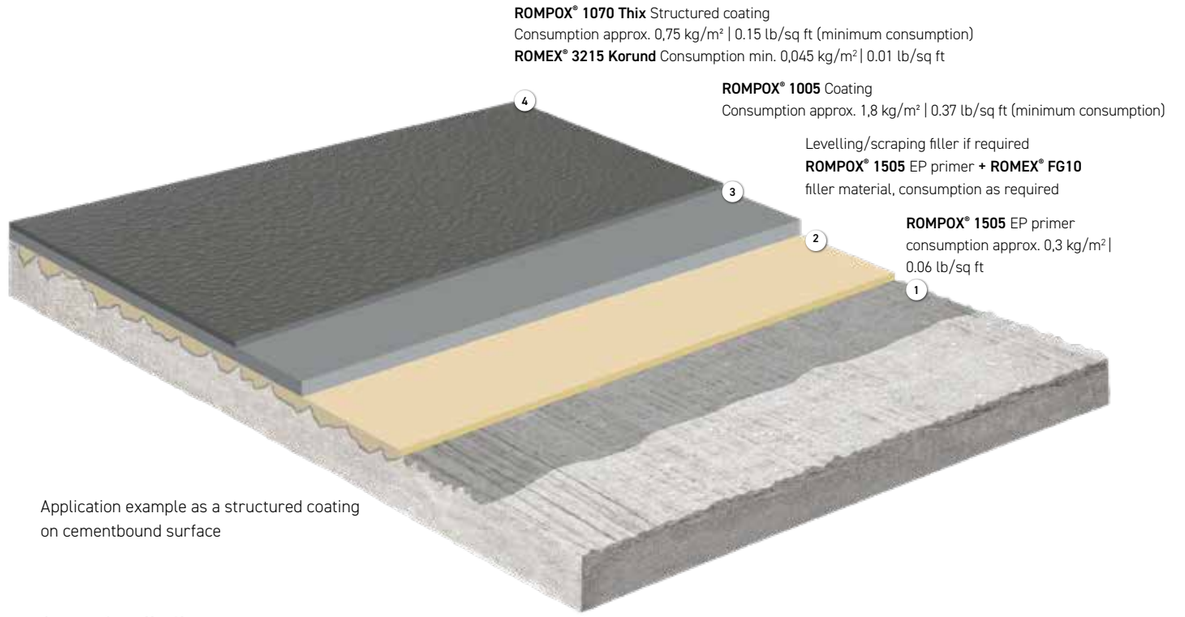
Please note:
The minimum consumption of ROMPOX® 1010 is 3,5 kg/m² | 0.72 lb/sq ft! Insufficient aereation can increase the waiting time for subsequent works and hardening of coating as well as causing differences in degree of shine or formation of white marks. Coated rooms need to be aired thoroughly in order to enable optimum diffusion of the water particles from the fresh coating!

Properties

- Completely frost and de-icing salt resistant (after hardening)
- Open to steam diffusion
- Mechanically highly load bearing
- Chemical resistance
- Thick layer as self-levelling coating
- For surfaces touching the ground
- Can be made nonslip
- Available in many standard and light colour tones, special colours on request

ROMPOX® Structured coating

Structured coating system with predefined nonslip level that is easy to clean for industrial production facilities and warehouses.



Application example as a structured coating on cementbound surface

Areas of application

ROMPOX® 1070 Thix is a lightly structured, solvent free, viscous hard topcoat with high abrasion strength. By mixing in aluminiumoxide (Korund), firedried quartz sand, etc. it is possible to achieve a predefined nonslip level along with good cleaning capability. ROMPOX® 1070 Thix is used as a structured, rolled coating in production and warehouse areas in the automotive industry, in the electrical and pharmaceutical industry, engineering and factory workshops.

Surface requirements before application

- ▷ The surface must be loadbearing, even, dry and free of oil, grease, separators and dust.
- ▷ Loose particles and other dirt must be removed.
- ▷ In general, the surface should be prepared by shotpeening.
- ▷ In some cases it may be necessary to carry out diamond grinding or milling.
- ▷ The minimum adhesion strength of the surface must be ⩾1.5 N/mm² | 218 psi.
- ▷ Residual moisture of the concrete must be ⩽4 CM% (CM machine).
- ▷ For cement surfaces with increased residual moisture ⩽ 6 CM-%: ROMPOX® 1506
- ▷ For higher residual moisture > 6 CM-%: ROMPOX® 1504 (as moisture barrier).
- ▷ Highly porous surfaces need to be primed twice!
- ▷ In all cases, it is necessary, that after priming, all pores on the surface are sealed.
- ▷ Metal surfaces should be treated according to the Swedish norm SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101.

Please note:
When working indoors, sprinkling can be left out, if it is ensured, that subsequent work will take place within 48 hours at the latest. Please take note of ROMEX® technical specifications for coatings and sealants.

Properties

- Easy to clean
- Elastified (ROMPOX® 1505 Flex / ROMPOX® 1080 Thix)
- Viscous hard floor coating, resistant to vehicles and forklifts
- Very high abrasion strength
- Can be made nonslip
- Good chemical resistance
- Solvent free

Technology

Surface before coating

Technical information

Surface preparation

1. Preliminary notes
The application of reactive resins when laying, improving or repairing industrial floors, needs precise knowledge of the requirements of the surface, a thorough examination of the surface and careful preparatory work for each individual case. ROMEX® as a material manufacturer works only with certified partners who have been trained in the processing of reactive resin coatings with ROMEX® materials. The ROMEX® partner takes on the task and together we give you the warranty for the finished coating. ROMEX® as manufacturer does make direct offers and does not accept work contracts.

2. Areas of validity
The following instructions and requirements are valid - DIN 18560 screeds in construction, ATV DIN 18353 screed work and ATV DIN 18365 floor coating work. The requirements described here should be applied to industrial floor coatings. The terms and regulations found in DIN 55945- painting materials and similar coating materials- cannot be used for industrial floors because they primarily apply to painting applications and do not take into consideration the requirements of industrial floors.

3. Testing and preparation of the surface
The durability and resistance of industrial floors made from reactive resins, depends on the strength and quality of the sub surface. This must therefore always be tested for its suitability for the subsequent layer construction and, if necessary, adequately prepared and pre-treated.

The requirements for testing and surface preparation involve the following:

- Testing moisture / dryness of concrete
- Risk of rising damp (osmosis)
- Evenness acc. to DIN 18202
- Incorrect height
- Compressive strength of floor slab
- Surface strength (minimum adhesion strength)
- Soft and breakable parts
- Chemical soiling
- Porosity
- Roughness
- Cracks
- Joints
- Room climate (temperature and air humidity)
- Surface temperature and risk of melting point
- Hollow areas
- Compatibility between reactive resin and surface

Depending on results, additional measures may need to be taken.

4. Requirements of the surface before coating

The surface must be loadbearing, level, dry, free from oil, grease, separating agents and dust. Loose parts and other soiling must be removed. As a rule, each surface must be prepared by means of shot peening and then primed. Milling or grinding may be necessary in individual cases. The adhesive strength of the surface must be 1.5 N/mm² to ensure good adhesion with the standard primer ROMPOX® 1505.

If the minimum tensile strength is not reached, the damaged concrete surface must be removed by grinding, milling or shot peening, until the healthy core concrete is reached. The residual moisture content of the concrete must be ⩽ 4 CM%, for anhydrite-bound surfaces < 0,5 CM%, heated < 0.3 CM% (CM device). For cement surfaces with increased moisture content ⩽ 6 CM%, use ROMPOX® 1506, for higher residual moisture content > 6 CM%, use ROMPOX® 1504. Highly porous surfaces must be primed twice! In all cases it is necessary that all surface pores are sealed after priming.

Metal surfaces should be treated according to SA 2 ½ acc. to ISO Norm 8501-1 and then primed with ROMPOX® 1101. Due to the numerous variations in surfaces – especially with old coatings or dense surface made of hard materials or any treatment agents that may have been used – we recommend that a sample coating is laid, in order to eliminate any reactions that cannot be calculated in advance.

For all concrete and epoxy works, at least 15 °C and maximum 70% air humidity are required according to ROMEX® standards.

The floor can then be used as follows:

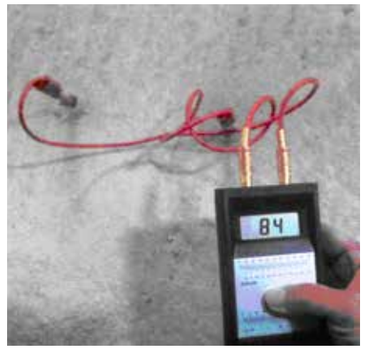
- Pedestrian traffic after 2 days
- Medium heavy traffic after 5 days and
- Fully loadbearing after 7 days

The services are provided according to the standards of the ROMEX® checklist for concrete and epoxy resin floors. Any expansion joints are laid according to static calculations. Cracks that appear due to the physical properties of concrete and steel, or due to breakages or hollow areas, are not an indication of faulty work.

Table 3 – Tolerance values for eveness deviations acc. to DIN 18202:2005-10

Reference		Actual dimension as tolerance limit in mm at measuring point distances in m up to				
		0,1	1[a.]	4[a.]	10[a.]	15[a.] [b.]
1	Non surface completed upper sides of ceilings, under concrete and under floors	10	15	20	25	30
2	Non surface completed upper sides of ceilings, under concrete and under floors with special requirements i.e. for swimming screeds, industrial floors, tiles and slab surfaces, bonded screeds	5	8	12	15	20
3	Surface completed floors, i.e screeds as used screeds, screeds for floor coverings, tiles, coverings that are filled and glued.	2	4	10	12	15
4	As 3, but with higher requirements	1	3	9	12	15
5	Non surface completed walls and under sides of raw ceilings	5	10	15	25	30
6	Surface completed walls and under sides of ceilings, i.e. plastered walls, wall coverings, underhanging ceilings	3	5	10	20	25
7	As 6, but with higher requirements	2	3	8	15	20

a.) In between values can be seen in pictures 4 and 5 and should be rounded up to whole mm.
b.) Tolerance limits for evenness deviations in column 6 are valid for measuring point distances more than 15 mm | ½".



Moisture measuring (electronic system power)

Measuring surface temperature

Testing adhesive tensile strength

Technical information

Slip resistance system

Concept, Advice, Service – from one source

Each year over a million accidents caused by falls on slippy floors occur in Germany alone, that is why ROMEX® has devoted themselves to this topic. ROMEX® has extensively researched the currently valid norms, as well as carrying out testing separately with our own line of research and the different methods of testing practical applicability. We can offer you a full-service concept and high-quality systems that meet all requirements for a non-slip industrial coating.

Assessment of testing methods

Slanted level acc. to DIN 51 130
In Germany, the test used to determine slip resistance is always the construction sample test according to BGR 181, corresponding to DIN 51 130 "Test of floor coverings – determining the nonslip property – workrooms and work areas with increased risk of slipping – walking method – slanted level".

The test method according to DIN 51 130 serves as a suitability test to determine and to classify the nonslip quality of industrial floor coatings.

The floor coating to be tested is attached to a set up that can be tipped and then painted with motor oil. A test person then "walks" downwards on the slanted level with normed work shoes, in small steps, forwards and backwards. The test angle is continuously changed and measured until the test person feels unsafe or slips.

The angle degree then determines the so called R value.

R 9: 6°–10°	R 10: > 10°–19°	R 11: > 19°–27°
R 12: > 27°–35°	R 13: > 35°	

According to the requirements of the trade association guidelines BGR 181, the minimum requirement is:

Evaluation group	Areas of application (examples)
R 9	General indoor areas such as offices and break rooms, company canteens, sales rooms, packaging areas, checkout areas, customer rooms, OP rooms, hospital rooms, corridors, chemists, laboratories, hairdresssers, medical practices, switch rooms, classrooms, break halls, corridors and entrances in schools and nurseries.
R 10	Public toilets, work rooms in schools, garages and underground carparks that are not affected by the weather.
R 11	Entrances to shops, outside stairs, kitchens in residential homes, nurseries and sanatoriums
R12	Hospital kitchens and other kitchens with a capacity of more than 100 settings daily, rooms for hose maintenance at firestations.
R13	Abbatoir floor coatings

Adjacent work areas must also be covered according to "adjacent" test groups, i.e. crossing from R 12 to R 11 is allowable, from R 12 to R 10 not.

Work areas that are subjected to loads consisting of greasy, paste-like or viscous materials need to have a displacement room. Barefoot areas subject to water are classified according to DIN 51 097 in ABCdegree-classifications.

Sliding friction test according to DIN 51 131
Even though the trade association only allows certain results using sliding friction testing machines, all surfaces on building projects must be able to be tested for slip safety. We recommend, as do leading surveyors, accompanying testing during and after application. With this testing method, movable test machines with varying sliders, measure the slip resistance. On site testing is possible. The results are authorised for floor coverings up to requirement R 9 and bare foot areas up to classification B with displacement room below 400 ml/m² | 0,105/10,764 sq ft.

According to BGR / GUV-R 181 for R9 and classification B, the following categories are valid for the sliding friction coefficient:

up to 0.30 = insufficient slip resistance
from 0.30 – 0.44 = slip resistant
from 0.45 = fit for unlimited industrial use

Due to missing comparitive sliding friction coefficients with R classification, we have determined our own measuring values. With these measuring values, we are able to determine values for the classifications R10 to R13, which offer a practical test of slip safety as a guide for laying companies and users. The requested values of R10 to R13 (slanted level) cannot be measured on the finished floor. Experts make use of the sliding friction test method in order to get comparable values

ROMEX® has carried out comparitive testing on 12 different, rough floor coatings and can thus produce comparable classification for the finished project. You can find all the measured and test values in the research report "Slip safety" by ROMEX® Produktionsgesellschaft. Request your copy from us or download it at **www.romex-ag.de**

Pendulum Test
The SRT pendulum test is used in Europe mainly to determine slip resistance in road construction, as well as for pedestrian zones and trafficked areas.

The SRT machine consists of a calibrated pendulum, that measures micro roughness, and an emission measurer that in principle determines the roughness and thus the displacement group, indirectly, but not comparitively. Both measured values lead to the SRT value.

SRT values are required acc. to EN 1341 (slabs), 1342 (paving stones), 1343 (curbstones) for natural stones as floor coverings, stairs and paving stones in outside areas, but are not recognised by German trade associations due to unreliable test results.

Sliding friction instrument

Our service for your success.

ROMEX® SLIP SAFETY CONCEPT

We offer tailor-made safety concepts for your industrial floor coating, specifically for your special, industrial needs

- Analysis of your requirements
- Testing of floor system and shoes in your company environment
- Recommendation of the slip safety classification and shoe type
- Preparation of samples of the nonslip floor coating as well as laying of sample surface on site
- Presentation and checking of prepared slip safety concept with your expert for work safety
- Checking by using our sliding friction test machines on sample surfaces, during laying and after the coating has been completed
- Production of a test protocol for final inspection and release
- Regular checks to guarantee permanent safety

Technical information

Airless spray method

ROMEX® coatings and sealants with time and money saving airless spray method for floors, walls and ceilings.

Time is a major factor on most building sites. Work usually needs to be completed in a very short time and coatings need to have a perfect appearance and optimum characteristics. Thanks to use of the airless spray method, these requirements can now be fulfilled even better.

ROMPOX® 1009 Open to steam diffusion sealant is used with this method for thin coatings. Floors, walls, ceilings and angled rooms can be coated easily and efficiently using this method. ROMPOX® 1009 Open to steam diffusion sealant is excellent for use on cementbound surfaces that have rising damp. Thanks to it's good water steam permeability, it can also be used on magnesite and anhydrite screeds as well as a sealant for hard poured asphalt indoors.

ROMPOX® 1009 open to steam diffusion sealant has the following properties:

- Epoxy resin based
- Open to steam diffusion
- For indoor and outdoor use
- Suitable for stadium stands
- Suitable for surfaces in contact with the ground
- Lightly structured surface
- Fulfills fire class B1 (flame resistant)
- Water emulsifiable
- Can be made nonslip by use of quartz sand or glass bead sprinkling
- Large selection of colours

Airless machines:

Function
The airless spray method uses a pump powered by either an electric, pneumatic or petrol powered motor, to put the material under pressure and then press a defined amount of material with up to 540 bar through a nozzle forming a jet spray of material.

Recommended equipment
- **Airless machines with membrane**
  Separation of material transport and machine system, thus easy to clean
- **Airless machines with piston**
  Higher power but also need more cleaning

Compressor-powered units operate in contrast to electric or gasoline powered units without additional heat - the pot life can be fully utilized. Accordingly, compressor-powered devices are preferable. Transportable devices can be placed on a cart with material.

Requirements
The airless equipment needs to expel the material at a pressure of approx. 160 – 200 bar (setting dial with pressure gauge). The nozzle (made of stainless steel) should have a diameter >0,033 mm (standard 13 nozzle or 15 to 17 nozzles for larger surfaces.) Cleaning is done by spraying with water until no more material is left in the system. End of day final cleaning is done using a solvent. In between cleaning is only necessary in case of work interruption.

Example of a piston airless machine being used

Membrane airless machine with compressor drive

Easy to clean turn nozzle for all airless machines

Advantages of airless spray technology

- Quick coating of large surfaces
- Easy application
- Quick drying
- Enormous time saving
- Visually attractive result from no roller marks
- Low material consumption
- Ideal for hard to access or angled areas
- Lower costs

Gloss grades

Testing acc. to DIN 67530:

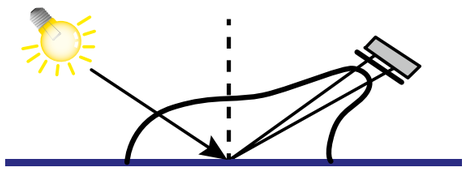
"Shine is an impression by the senses, created by the reflection of light rays onto the surface of a coating and perceived by the human eye"

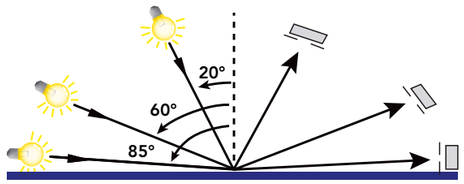
ROMPOX® 1005 coating, high gloss

ROMPUR® 2508 Matt sealant

Shine measuring is carried out using a reflectometer. The principle of the reflectometer is based on the measuring of the directed reflection. The intensity of the reflected light is measured within a narrow band of the reflection angle. The test results are not based on the quantity of light shone, but on a black, polished glass standard with defined refraction index. This standard uses the measured value 100 units of shine (100GE). It is possible to have materials and layers with values >100GE i.e. metal up to 2000GE. To differentiate better between the measuring values, depending on the shine, different measuring angles are used: high shine 20°, medium shine 60° and matt shine 85°. Nowadays "TriGloss" machines are used for measuring because they can measure all 3 angles

Description	Measuring angle	Reflectometer value
Gloss	60°	> 60
Medium shine	60°	< 60
Medium shine	85°	> 10
Matt	85°	< 10
Dull matt	85°	< 5





Thaw/melting point

acc. to ZTV-SIB 90

Air temperature in °C	Thaw/melting point in °C at a relative air humidity of approx.										
	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %
2	–7,70	–6,56	–5,43	–4,40	–3,16	–2,48	–1,77	–0,98	–0,26	0,47	1,20
4	–6,11	–4,88	–3,69	–2,61	–1,79	–0,88	–0,09	0,78	1,62	2,44	3,20
6	–4,49	–3,07	–2,10	–1,05	–0,08	0,85	1,86	2,72	3,62	4,48	5,38
8	–2,69	–1,61	–0,44	0,67	1,80	2,83	3,82	4,77	5,66	6,48	7,32
10	–1,25	0,02	1,31	2,53	3,74	4,79	5,82	6,79	7,65	8,45	9,31
12	0,35	1,84	3,19	4,46	5,63	6,74	7,75	8,69	9,60	10,48	11,33
14	2,20	3,76	5,10	6,40	7,58	8,67	9,70	10,71	11,64	12,55	13,36
15	3,12	4,65	6,07	7,36	8,52	9,63	10,70	11,69	12,62	13,52	14,41
16	4,07	5,59	6,98	8,29	9,47	10,61	11,68	12,66	13,63	14,58	15,54
17	5,00	6,48	7,62	9,18	10,39	11,48	12,54	13,57	14,50	15,36	16,19
18	5,90	7,43	8,83	10,12	11,33	12,44	13,48	14,56	15,41	16,31	17,25
19	6,80	8,33	9,75	11,09	12,26	13,37	14,49	15,47	16,40	17,37	18,22
20	7,73	9,30	10,72	12,00	13,22	14,40	15,48	16,46	17,44	18,36	19,18
21	8,60	10,22	11,59	12,92	14,21	15,36	16,40	17,44	18,41	19,27	20,19
22	9,51	11,16	12,52	13,89	15,19	16,27	17,41	18,42	19,39	20,28	21,22
23	10,44	12,02	13,48	14,87	16,04	17,29	18,37	19,37	20,37	21,34	22,23
24	11,34	12,93	14,44	15,73	17,06	18,21	19,22	20,33	21,37	22,32	23,18
25	12,20	13,83	15,37	16,69	17,99	19,11	20,24	21,35	22,27	23,30	24,22
26	13,15	14,84	16,26	17,67	18,90	20,09	21,29	22,32	23,32	24,31	25,16
27	14,08	15,68	17,25	18,57	19,83	21,11	223,23	23,31	24,32	25,22	26,10
28	14,96	16,61	18,15	19,38	20,86	22,08	23,18	24,28	25,25	26,20	27,18
29	15,85	15,58	19,04	20,48	21,83	22,97	24,20	25,23	26,21	27,26	28,18
30	16,79	18,44	19,96	21,44	23,71	23,94	25,11	26,10	27,21	28,19	29,09
32	18,62	20,28	21,90	23,26	24,65	25,79	27,08	28,24	29,23	30,16	31,17
34	20,42	22,19	23,77	25,19	26,54	27,85	28,94	30,09	31,19	32,13	33,11
36	22,23	24,08	25,50	27,00	28,41	29,65	30,88	31,97	33,05	34,23	35,06
38	23,97	25,74	27,44	28,87	30,31	31,62	32,78	33,96	35,01	36,05	37,03
40	25,79	27,66	29,22	30,81	32,16	33,48	34,69	35,86	36,98	38,05	39,11
45	30,09	32,17	33,86	35,38	36,85	38,24	39,54	40,74	41,87	42,97	44,03
50	34,76	36,63	38,46	40,09	41,58	42,99	44,33	45,55	46,75	47,90	48,98

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