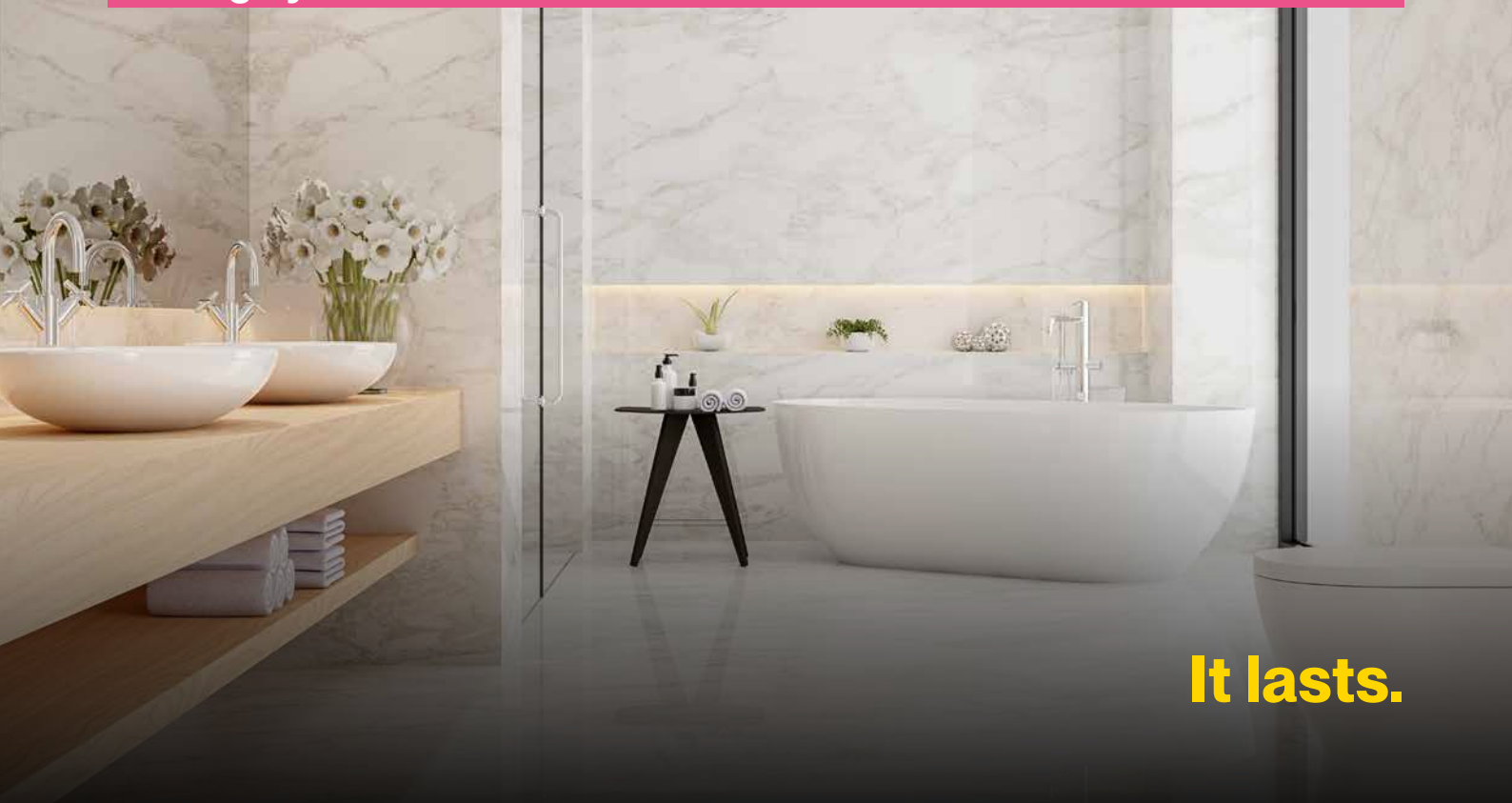


MUREXIN

Laying natural stones

Natural stone types | Laying and grouting

Tiling System



It lasts.

MUREXIN

Natural stone systems

Natural stone is becoming increasingly popular, both in commercial and residential construction. The unique character of the natural stone gives every room and every terrace an exclusive character. Its natural properties, warm colours and unique grain make each slab unique.

Content

Natural stones and their properties
3

Tips & Tricks 4

Products 5

Natural stone types and their properties

Natural stones are categorised according to their origin: igneous rocks, sedimentary rocks and metamorphic rocks. All types of rock have formed over millions of years. Unique colours, structures and shades were created under enormous pressure or by deformation.

Magmatic rocks

These are divided into **deep rocks** and **volcanic rocks**. **Deep rocks** were formed by the solidification of magma deep in the earth's crust. Deep rocks are very solid, not very porous and show no stratification or schistosity.

The best known deep rock is granite. Its characteristics make it easy to recognise: it is structured without direction and without banding. Its main constituents are light-coloured minerals whose structure is mostly medium to coarse-grained.

Other deep rocks: **granodiorites, diorites, gabbros, syenites**.



Volcanic rocks or effusive rocks are formed by the solidification of magma on the earth's surface. As they are subject to less pressure than deep rock, for example, they tend to be brittle, very strong and durable.

The best-known volcanic rocks are: **porphyry, basalt and tephrite**.



Sedimentary rocks

This type of rock is formed by the deposition of rock residues. The different layers are often recognisable in their structure. The grain size can vary greatly. Almost all types of minerals and rocks can be present as fragments. The sediment may consist partly or entirely of fossils.

The two most widespread sedimentary rocks are **sandstone and limestone**.



Sandstone is formed by the solidification of rock and mineral fragments and the weathering of newly formed minerals. Sandstone has a wide range of colours and therefore a high decorative value.



Limestone is formed by the accumulation of organic components, weathered stones and chemical precipitation of aqueous solutions such as salt. Limestone, like dolomite, is often referred to as marble. This is evident from the name Jura marble. Limestone is technically comparable to marble.

Metamorphic rocks

Metamorphic rocks are formed by the transformation of other rock types as a result of high temperature and pressure. They are often slated, panelled or banded. Grain sizes vary from very fine to coarse.



Marble is a metamorphic rock formed from limestone. Its typical distinguishing feature is the usually light base colour with dark veins.



Quartzite is a metamorphic rock formed from sandstone. It has a high quartz content and can withstand very high mechanical loads.



Slate is a weakly metamorphic rock that was formed under high pressure. **Slate** is recognisable by its typical shimmer.

Tips & Tricks

shine through

To prevent the adhesive from shining through the stone, we recommend:

- Follow the exact laying recommendations of the stone manufacturer
 - Adhesion test
 - Use of white adhesives, such as white flexible adhesive mortar and/or class C2F adhesive (fast-setting adhesive mortar)
- The shine through can occur especially with lower stone qualities.

Good water drainage

The entire substrate must be reinforced in accordance with static requirements, as well as being load-bearing, torsion-resistant and frost-resistant, and must be adapted to the physical requirements of the local building.

The concrete base, bare concrete floor, screed, sealing etc. must have a gradient of at least 2 - 3 % (i.e. 2 - 3 cm over 1 m). No water may remain on any of the surfaces to be laid. Good water drainage is the best way to prevent frost damage.

If it is a so-called flat roof construction (e.g. terrace over a cellar), the structure must be waterproofed in accordance with the guidelines of ÖNORM B 3691.

Any thermal insulation required (e.g. EPS boards) must be designed to be pressure-resistant and weatherproof in accordance with local requirements.

Efflorescence

In order to avoid efflorescence, you should

- Use trass-based products
- Use quick-setting products
- Prevent moisture replenishment from the substrate

Efflorescence consists of lime, which is formed as calcium hydroxide when the cement sets and forms a calcium carbonate (lime) on the surface of the stone with the carbonic acid in the air, which is difficult to dissolve.

Caution: do not use acids when cleaning efflorescence on natural stone.

Discolouration

The transformation of substances in the stone can lead to discolouration, which can seldom be prevented as it is a natural weathering process.

Discolouration due to moisture, e.g. from the mixing water, is different. This process can be counteracted by using fast-setting adhesives (C2F). In this way, the mixing water is bound more quickly and, in the best case, there is no reaction in the stone.

Another point in this context is the thickness of the stone. Therefore, more caution is required with thin stones than with thick ones.

Impregnation

Colourants dissolved in water can penetrate the material through the pores in the natural stone and lead to discolouration or staining. Natural stone should therefore be impregnated according to the manufacturer's instructions. If you choose your own impregnation, always treat a test stone with it first, as the stones react differently to the products.

Correct joint sealing compound

- Colours: dark colours are generally preferable, especially for floors and outdoor areas. For coloured grouting, you should always create a test area to check the compatibility of the joint sealing compound with the stone surface.
- Grain size: it is essential to match the material to the correct joint width and depth. Products for narrow joints are usually not designed for the depth of stones
- Rough, open-pored surfaces: do not use grout that is too heavily plasticised or contains coloured pigments. It is also advisable to rinse thoroughly and as soon as possible.
- Natural stone silicone: It is essential to ensure that only neutrally cross-linking silicones are used in natural stone areas to avoid soiling the edges.

In any case, a test adhesion is recommended.

System components for laying natural stone

Water-resistant stones

Primer

Penetrating primer **LF 1**, **LF 15** or Super Primer **D4 Rapid**

Sealing (optional)

Professional Sealing Film **PSM 1K** or Liquid Film **2 KS**

Adhesion

Flex Adhesive Mortar **-MAXIMO M 41**, -White **KWF 61** or -Trass **KTF 55**

Grouting

Flexfuge Platinum **FX 66**, Grout Trass **FMT 15**, Stone Joint Trass **SF 50**

Sealant

Natural Stone Silicone **SIL 50**, Special Sealant **X-Bond MS-D81**

Water-sensitive stones

Primer

Penetrating primer **LF 1**, **LF 15** or Super Primer **D4 Rapid**

Sealing (optional)

Professional Sealing Film **PSM 1K** or Liquid Film **2 KS**

Adhesion

Rapid Flexible Adhesive Mortar White **SFK 81**, Rapid Flexible Adhesive Mortar Trass **SFK 85**, (optional with S2 emulsion)

Grouting

Flexfuge Platinum **FX 66**, Rapid Flexfuge Ultra **SFU 77**

Sealant

Natural Stone Silicone **SIL 50**, Special Sealant **X-Bond MS-D81**

The products

Preparation



Penetrating Primer **LF 1**

High quality synthetic resin dispersion with very good penetration properties and simple control due to blue colouration. Indoors and outdoors as adhesive bridge for all adhesive mortars, levelling and smoothing compounds, and compound seals for absorbent substrates. Suitable in accordance with ÖNORM B 3407 W1 - W2.

Consumption: approx. 150 g/m²



Liquid Film **2 KS**

Quick hardening, seam and jointless, two-component, low temperature elastic compound seal. Indoors and outdoors for jointless sealing of wall and floors areas under the ceramic covering in showers, bathrooms, on terraces and balconies. According to EN 14891, ÖNORM B 3407 W1-W6, according to DIN 18534 for water impact class W0-I to W3-I (for W3-I without additional chemical load), according to DIN 18531-5 (balconies, loggias, etc.) and DIN 18535 (swimming pools and containers), as well as according to the test principles for the issue of a general building inspection test certificate.

Consumption: approx. 1.5 kg/m² per mm layer thickness (approx. 3 kg/m² per 2 mm layer thickness)



Professional Sealing Film Rapid **MAXIMO PSM 1K**

Quick hardening, high yield, hydraulically setting, solvent-free, water-impermeable but water vapour-permeable, flexible, single-component sealing slurry for creating seamless and jointless compound seals for interior and exterior areas for jointless sealing of wall and floor areas directly under the ceramic covering. For application on balconies, terraces and swimming pools (down to 4 m) as well as underfloor heating systems. Tiling is possible after three hours. According to EN 14891, ÖNORM B 3407 W1-W6, according to DIN 18534 for water impact class W0-I to W3-I (for W3-I without additional chemical load), according to DIN 18531-5 (balconies, loggias, etc.) and DIN 18535 (swimming pools and containers), as well as according to the test principles for the issue of a general building inspection test certificate.

Consumption: approx. 1.15 kg/m² per mm layer thickness (approx. 2.3 kg/m² per 2 mm layer thickness)



Penetrating Primer **LF 15**

Solvent-free, water-dilutable, high-quality priming concentrate based on acrylate mixed polymers with very good penetrating properties. Simple control thanks to blue colouration. Indoors and outdoors as adhesive bridge for all adhesive mortars, levelling and smoothing compounds, and compound seals for absorbent substrates.

Consumption: approx. 150 - 200 g/m²



Super Primer **D 4 RAPID**

Adhesion-enhancing, solvent-free, single-component, ready-to-use, very quick-drying primer based on special dispersion. A non-slip surface is achieved after drying. Indoors and outdoors for wall and floor surfaces. For preparing absorbent and non-absorbent substrates. Suitable both before filling and before tiling; especially for the renovation area of tile on tile. Super Primer D4 Rapid can be used as a primer on anhydrite screeds up to tiling sizes of 10,000 cm² (e.g. 100 x 100 cm) (more details in technical data sheet). Suitable in accordance with ÖNORM B 3407 W1 - W2.

Consumption: 100 - 150g/m² depending on the substrate



Drainage Mortar Trass **DMT 40**

Ready mixed, frost and efflorescence-safe, water-permeable trass single grain mortar of mortar class C 16/20. In outdoor areas for laying tiles or natural stones as drainage-compatible concrete underlay for plastering as water-permeable compound screed. For laying wet on wet or after drying for thin bed laying and on drainage mat systems.

Consumption: approx. 19 kg/m²/cm, depending on layer thickness



Levelling Mortar Trass Rapid **AM 50**

Trass-containing, highly tempered, water and frost-resistant, very quick hardening, hydraulically setting levelling mortar. Due to special additives, the mortar hardens without tension up to 50 mm and demonstrates very good processing properties. Indoors and outdoors for levelling uneven wall and floor areas before tiling in living rooms, showers, on balconies, terraces, garages, swimming pools, commercial wet rooms and facades.

Consumption: approx. 1.6 kg/m² per mm layer thickness



The products

Adhesion



Flex Adhesive Mortar Trass **KTF 55**

Powdery, water and frost-resistant, highly tempered, hydraulically setting adhesive mortar for layer thickness from 3 to 20 mm especially for laying natural stone. The adhesive mortar offers more security against efflorescence and discolouration. Indoors and outdoors for flexible laying of ceramic tiles, slabs, non-translucent natural stones, mosaics, artificial stone and cotto, as well as slabs with strong profiles without levelling the substrate in the course of laying.

Consumption according to toothing:

approx. 1.8 kg/m² at 6 mm toothing
approx. 2.4 kg/m² at 8 mm toothing
approx. 3.1 kg/m² at 10 mm toothing



Rapid Flex Adhesive Mortar Trass **SFK 85**

Virtually temperature-independent, powdery, crystalline water binding, food-safe, water and frost-resistant, highly tempered, rapid, hydraulically setting grey adhesive mortar for laying in adhesive layer thicknesses of up to 20 mm. The adhesive mortar offers more security against efflorescence and discolouration. For indoor and outdoor use on walls and floors for laying a wide variety of coverings (especially for large formats).

Consumption according to toothing:

approx. 1.8 kg/m² at 6 mm toothing
approx. 2.6 kg/m² at 8 mm toothing
approx. 3.4 kg/m² at 10 mm toothing



Flex Adhesive Mortar Grey **KGF 65**

Powdery, fibre-reinforced and dust-reducing, water and frost-resistant, highly tempered, hydraulically setting flexible adhesive mortar with improved full hardening for thin-bed laying. Indoors and outdoors for laying ceramic tiles and slabs made of earthenware, stoneware and fine stoneware as well as dark, non-sensitive natural stone slabs. Suitable for increased thermal or static loads. Especially well suited for laying tiles on tiles.

Consumption according to toothing:

approx. 1.7 kg/m² at 6 mm toothing
approx. 2.3 kg/m² at 8 mm toothing
approx. 3.0 kg/m² at 10 mm toothing



Rapid Flex Adhesive Mortar White **SFK 81**

White, almost temperature-independent, powdery, crystalline water binding, water and frost-resistant, highly tempered, hydraulically setting flexible adhesive mortar for laying of up to 20 mm adhesive bed thickness. No shine through for light materials. Indoors and outdoors for laying a wide variety of coverings, fine stoneware (especially for large formats) with increased thermal or static loads in a layer thickness up to an adhesive thickness of 4 to 20 mm.

Consumption according to toothing:

approx. 1.8 kg/m² at 6 mm toothing
approx. 2.5 kg/m² at 8 mm toothing
approx. 3.2 kg/m² at 10 mm toothing



Flex Adhesive Mortar White **KWF 61**

White, powdery but dust-reducing, water and frost-resistant, highly tempered, hydraulically setting flexible adhesive mortar for laying adhesive bed thicknesses from 3 to 20 mm. Indoors and outdoors for laying coverings, fine stoneware with increased thermal or static loads. Especially suited for laying tiles on tiles and for laying translucent, non-cupping natural stones.

Consumption according to toothing:

approx. 1.8 kg/m² at 6 mm toothing
approx. 2.4 kg/m² at 8 mm toothing
approx. 3.1 kg/m² at 10 mm toothing



Flex Adhesive Mortar **MAXIMO M 41**

Powdery, but dust-reducing, food-safe, hydraulically setting flexible adhesive mortar with high yield (+30%), high frost resistance, not flammable, water-repellent and ensuring an especially good room climate due to its heat retaining properties. Indoors and outdoors possible to bond all ceramic materials and many natural stones, as well as for levelling walls and floors in layer thicknesses of 2 to 15 mm.

Consumption according to toothing:

approx. 1.4 kg/m² at 6 mm toothing
approx. 1.8 kg/m² at 8 mm toothing
approx. 2.2 kg/m² at 10 mm toothing



Grouting



Rapid Flexfuge Ultra **SFU 77**

Powdery, food-safe, water and frost-resistant, coloured, fine, hydraulically setting grout with top hygienic formula. The unique, highly tempered recipe leads to rapid and even tightening of tile and joint. Indoors and outdoors on wall and floor surfaces for a quick setting grouting of joint widths from 1 to 15 mm. High edge adhesion is achieved through the high quality plastic components.

Consumption: 0.5 - 1.8 kg/m²



Stone Joint Trass **SF 50**

Powdery, food-safe, frost and de-icing salt resistant, waterproof, tempered, hydraulically setting grout with trass additive for the prevention of efflorescence. Indoors and outdoors for grouting 4-50 mm joint widths of concrete, natural stone, plaster and clinker coverings in bonded construction. Also well suited to processing with electric floor cleaning machines. Suitable for usage categories N1, N2 and N3 according to ZTV Road Construction.

Consumption: depending on stone format, joint width and joint depth. The precise consumption is to be determined using a test area.



Grout Trass **FMT 15**

Powdery, food-safe, water and frost-free, tempered, hydraulically setting grout based on trass for grouting wide joints. Grout Trass FMT 15 offers additional safety against efflorescence and discolouration. Indoors and outdoors for grouting of 4-15 mm joint widths. For grouting natural stones, absorbent tiles and artificial stones (concrete blocks).

Consumption: 0.6 – 2.0 kg/m², depending on tile format and joint width



Natural Stone Silicone **SIL 50**

Single-component, UV-resistant, waterproof, up to 20% permanently flexible sealing mass based on neutral silicone. Suitable for indoors and outdoors. In contrast to conventional silicone sealants on contact with Murexin natural stone silicone SIL 50, no edge contamination (discolouration) takes place. Also suitable for use in swimming pools and wetrooms.

Consumption: 1 cartridge is sufficient for approx. 10 linear metres with a 5 mm joint width



Special Sealant **X-BOND MS-D 81**

Single-component, solvent and silicone-free, odourless, UV and weather-resistant, waterproof, MS polymer-based sealing compound. Perfectly suited for grouting large format slabs outdoors. Resistant to fungi and bacteria. Can be used indoors and outdoors for closing expansion joints, wall and floor niches in ceramic coverings, as well as joints between tile coverings and foreign materials.

Consumption: 1 cartridge is sufficient for approx. 10 linear metres with a 5 mm joint width



Flexfuge Platinum **FX 66**

Powdery, food-safe, water and frost-resistant, super-smooth, high-strength and flexible grout with pearl effect. Easy application into the joint and uniformly fast setting of the joint sealing compound, especially with non-absorbent laying material, enables quick and easy installation and further work without delay. Moreover, the low water consumption of the highly abrasion-resistant grout reliably prevents the formation of stains. Indoors and outdoors on wall and floor surfaces for grouting joint widths from 1 to 10 mm. For water and dirt-repellent grouting of ceramic tiles, slabs and mosaic, as well as natural stone and fine stoneware. Suitable for underfloor heating systems in living areas, as well as for wet rooms, terraces and balconies.

Consumption: 0.2 - 0.9 kg/m² (depending on the tile format and the joint width) consumption calculator at www.murexin.com



MUREXIN

MUREXIN GmbH

A-2700 Wiener Neustadt, Franz von Furtenbach Straße 1
Tel.: +43/2622/27 401-0, E-Mail: info@murexin.com

Deutschland: Murexin GmbH

D- 63165 Mühlheim am Main, Industriestraße 25-27
Tel.: +49/6108 7099-2000
E-Mail: info@murexin.de

Ungarn: Murexin Kft.

H-1103 Budapest, Noszlopy u. 2-6.
Tel.: +36/1/262 60 00
E-Mail: murexin@murexin.hu

Tschechien: Murexin spol. s. r. o.

CZ-664 42 Modřice, Brněnská 679
Tel.: +420/5/484 26 711,
E-Mail: murexin@murexin.cz

Slowakei: Murexin spol. s. r. o.

SK-831 04 Bratislava, Odborárska 52
Tel.: +421/2/492 77 224
E-Mail: murexin@murexin.sk

Slowenien: Murexin d.o.o.

SLO-9201 Puconci, Puconci 393
Tel.: +386/2/545 95 00
E-Mail: info@murexin.si

Rumänien: MUREXIN SRL

RO-077045 Chitila, Catted Business Park Chitila
Tel.: +4/021/252 62 51
E-Mail: info@murexin.ro

Frankreich: Murexin France Sarl.

FR-67100 Strasbourg, 28 Rue Schweighaeuser
Tel.: +33/607 262 438
E-Mail: info@murexin.fr

Kroatien: Murexin d. o. o.

HR-10255 Donji Stupnik, Stupničke Škipkovine 4b
E-Mail: info@murexin.hr

Schweiz: Murexin AG

CH-8303 Bassersdorf, Hardstrasse 20
Tel.: +41/44/877 70 30
E-Mail: info@murexin.ch

Vertrieb für Italien:

Murexin GmbH, A-2700 Wiener Neustadt, Franz von Furtenbach Straße 1, Tel.: +43(0)2622/27 401-0, E-Mail: info@murexin.com

Subject to typesetting and printing errors. Edition: 04/2024. We would like to point out that the photos used are only symbolic photos and that these objects do not require our products but only demonstrate areas of application, unless they are explicitly mentioned as reference objects.

It lasts.