DURASIL® M plus

Natural stone joint sealing

Characteristics

Durasil M plus is a neutral curing silicone sealant for the durable sealing of joints with contact to discoloration sensitive natural and artificial stone. It is resistant to UV radiation, weather effects, water and a multitude of chemical substances.

- does not cause migratory staining (ISO 16938)
- mould inhibiting (fungicidal) equipped
- very low-emission (EMICODE EC1 plus)
- available in a variety of **glossy and matt** colors

Areas of application

Indoor and outdoor sealing of connection and expansion joints, especially made for contact with discoloration sensible natural or artificial stone in facade or floor surfaces, sanitary facilities or kitchens as well as in clean rooms and ventilation channels.

Compliance/ inspections

EN 15651-1	F EXT-INT CC class 25 LM
EN 15651-2	G CC class 25 LM
EN 15651-3	S class XS1
EN 15651-4	PW EXT-INT CC class 25 LM
ISO 16938-1	Compatible with natural stone
DIN 52452-4	A1 and A2, compatible with paint
VOC Frankreich	emission class A+
EMICODE®	EC 1^{plus} R – very low-emission
REACH	compliant to regulation (EG) Nr. 1907/2006

[1]) verified with common coating systems for wooden surfaces

Technical Data

Base:	Pure silicone, moisture curing	
Curing system:	neutral, MEKO-free	
Fission product:	Pentanonoxime	
Fungicidal equippment:	yes	
Specific gravity:	≈ 1,03 g/cm^3 (glossy) ≈ 1,23 g/cm^3 (matt)	EN/ISO 1183-1
Consistency:	pasty, stable	ISO 7390
Processing temperature:	+ 5 - + 40 °C [2])	
Skin formation time:	≈ 15 Min. [3])	
Curing rate:	≈ 2 mm/Tag [3])	
Shrinkage:	≤ 5 Vol.-%	ISO 10563 [4])
Module / tensile stress at 100%:	≈ 0,5 N/mm^2	ISO 8339 [4])
Hardness:	≈ 30°Shore A	ISO 868 [4])
Movement capability:	25 %	
Temperature resistance:	- 40 - + 180 °C	
Fire classification:	class E class B2	EN 13501 DIN 4102

[2]) Temperature of the material, underground and environment
[3]) at 23 °C and 50 % relative humidity (with higher temperature and / or humidity the skin formation and curing time reduces and vice versa)
[4]) after 28 days at 23 °C and 50 % relative humidity

Information for building certification

DGNB, version 2015 und 2018	ENV1.2 Risks for local environment			
Criteria matrix, line 12	Quality grades			
	1	2	3	4
Chlorinated paraffins < 0,1%	√	√	√	√
Solvents< 1%	√	√	√	√
Hydrocarbon plasticizers < 0,1%	√	√	√	√

DGNB: Deutsche Gesellschaft für Nachhaltiges Bauen – DGNB e.V.

LEED	Indoor Environmental Quality
IEC Credit 4.1: Low Emitting Materials: Adhesives and Sealants	
VOC Content < 250 g/Liter √	

LEED: Leadership in Energy and Environmental Design

Constructive requirements

The width of movement joints has to be planned in a way that guarantees that the permitted maximum deformation will not be exceeded by the expected movement. The joint width should be between 6mm and 30mm. For joints with a width of 12 mm it is necessary to have a minimum depth of 6 mm. In wider joints a thickness of 10mm should not be exceeded. To limit the depth of the joint the usage of filling materials like backer rods or glazing tapes is recommended.

Adherent surfaces need to be dry, sustainable, dust free, release agent free, oil free, fat free as well as free of adherent components like rust, cement slurries, paint remains, remains of old sealants etc.

The sealant needs to be freely movable. A three-point adhesion is should be avoided.

The technical requirements apply for first grouting as well as for the correction of damaged joints.

Adhesion and compatibility

DURASIL M plus has a wide adhesion spectrum. Because of the variety of possible influences on the adhesion behavior, it is necessary to test the adhesion and compatibility before the usage of DURASIL M plus on undergrounds with not yet known behavior. Dependent on type and structure of the underground materials as well as the subsequent stresses (tension and shear forces, influence of temperature, humidity and other media) it can, dependent on suitable test results, be recommendable to improve the adhesion of the sealing on the underground by using a primer (e.g. ARA Haftreiniger 1200 for non-absorbent, ARA Primer P for porous or absorbent undergrounds).

On grounds with adhesion rejecting characteristics like polyolefin (PE, PP), silicone, PTFE (Teflon), butyl rubber, neoprene, EPDM, tarry, bituminous or waxy materials a sufficient adhesion is not achievable.

DURASIL M plus possesses a very good compatibility with a variety of common building metal (no corrosion) or synthetic undergrounds.

The durable compatibility between sealing and adjacent present or for the later contact intended materials (e.g. coating systems) or complete function units (e.g. glazing systems) has to be ensured before the usage in order to avoid stain, reduced adhesion, discoloring, migration effects or other harmful consequences. A persistent contact with materials which emit or absorb mobile components (e.g. softener, bitumen) should be avoided.

DURASIL M plus is a pure silicone. It is free of sour or alkaline components, migration capable plasticizers, extenders or solvents. Therefore it fulfills important requirements for a compatibility with natural stone or other sensible materials.

Effects of colored or discoloring substances can lead to an optical change of the sealant. This applies in particular to substances in tobacco smoke, dyes, dirt, tar and bitumenhaltige substances, but also in a colonization by mold.

Processing guideline

DURASIL M plus can be applied on accordingly prepared joints with customary processing equipment for cartridges or tubular bags. It is important to ensure a sufficient moistening of the adherent surfaces during the process.

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The sealant can be smoothed or modeled with suitable tools before the skin formation sets in. We recommend the usage of a sealant compatible smoother (e.g. ARAGLIDE). Whereby surpluses of the used smoother have to be removed thoroughly of the adjacent materials shortly after the application.

It is advisable to tape the joint edges on not polished or rough surfaces during the pointing works, in order to avoid uncontrolled spreading beyond the joint edges. Hereby caused impurities are not restless removable afterwards. If tapes have been used to mask the joint edges, they have to be removed before the skin formation sets in.

The curing of DURASIL M plus is dependent on the ambient temperature and humidity. Low humidity (e.g. on frost days) can decelerate the skin formation and hardening of the sealant.

Until the material has completely hardened, all kinds of dirt should be kept away from the sealant. During the hardening the joints should not be mechanically (e.g. with stretch, shock, vibration) stressed (early stress).

Handling of cured joints

DURASIL® M plus is a soft-elastic sealant. In order to prevent damage, abrasive detergents should not be used for cleaning. The cleaning can be performed with a soft cloth and a neutral, slightly lubricating cleaner like for example soap water or a non-aggressive household cleaner. Only soft and absorbing cloths should be used for drying the surface.

To avoid mold infestation the sealant surfaces in areas with characteristically high humidity (e.g. sanitary facilities, bathrooms, wet areas in kitchens) should be kept especially clean and not permanently wet. DURASIL® M plus contains fungal substances, but they cannot prevent infestation of substances, deposed on the surface (e.g. soap residues, dirt etc.). A fungal infestation of these superficial deposits can lead to discoloring or an infestation of the underneath situated silicone sealing. In the long run such an infestation can only be prevented by clean and dry surfaces of the sealant.

Delivery

DURASIL® M plus is available in a wide range of matt and shiny colors. We therefore refer to our current color sample cards. The production and delivery of special color shades on request is possible.

Forms of packaging

310 ml catridges, 20 pieces per box

400 and 600 ml tubular bags, 20 pieces per box

Storage and durability

In unopened original packaging and cool (< 25 °C) storage 12 months durable from the date of manufacturing.

An exceeding of the imprinted expiry date does not necessarily cause an unusability of the material. However in this case, it should be tested with regard to the required characteristics for the intended use.

Safety information

A contact of the uncured product with eyes, skin and mucous membranes should be avoided. When in contact with one of the previous mentioned body parts, clean with water and if necessary soap.

Detailed information for secured handling can be looked up in our safety data sheets, which can be found on our website.

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