



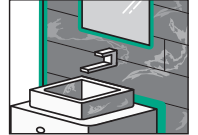
RAMSAUER®

445

**LASTING
BONDS.**

Stein+Sanitär

1-component neutral alkoxy sealant



natural stone



0757

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Ramsauer
RA-445-V01-15

EN 15651-1 F Ext.-Int.
EN 15651-3 XS
EN 15651-4 PW Ext.-Int.



Technical data sheet

Version: 11-2023

Tests:

- DIN EN 15651-1 F25LM Ext.-Int.
- DIN EN 15651-3 XS1
- DIN EN 15651-4 PW12.5E Ext.-Int.
- Approved in line with EN ISO 846, Methods A,B, & C
- Tested in accordance with IS 16938-1:2008
- Emicode EC1 „very low emissions“
- Tested for use in the foodstuffs industry
- Suitable for use in cleanrooms
- Fulfils the French VOC requirement Class A+

1. Mechanical Properties

Basis	Neutral cure alkoxy silicone sealant
Skin formation time	~ 10 Min. (23°C/50% relative humidity)
Full curing time	~2.5 mm/24 hours (at +23°C/50% relative humidity)
Density	~ 1.02 (EN ISO 1183-1)
Shore A hardness	~ 22 (DIN EN ISO 868)
Volume shrinkage	~ 4% (EN ISO 10563)
Tear propagation resistance	~ 4.0 N/mm (ISO 34-1)
Tensile stress at break	~ 0.31 N/mm ² (DIN EN ISO 8339)
Module	~ 0.24 N/mm ² (EN ISO 8339)
Elongation at break	~ 440% (DIN 53504-1 S2)
Resistance to high and low temperatures	-50°C to +150°C (long-term exposure)
Application temperature (substrate, environment)	Lower +5°C, upper +35°C
Admissible total deformation	25%
Colours	As per current colour card
Packaging	310ml cartridge; 400 & 600ml foil bag; industrial container 20-l drum; 200-l drums
Shelf life of cartridges and foil bags	8 months in original packaging in cool and dry storage conditions
Shelf life of industrial container	6 months, cool and dry in sealed original container

2. Properties

445 Stein+Sanitär is a plasticiser-free and odourless silicone sealant developed especially for jointing of natural stones, such as marble, granite, terrazzo, sandstone, etc. In contrast to conventional silicone sealants, this special formulation does not cause edge contamination of natural stone. The material contains active bactericidal and fungicidal substances and is resistant to commercially available cleaning agents and disinfectants. Suitable for both indoor and outdoor use. Weather-proof and UV-resistant.



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3. Priming table

Key

+	Good adhesion without priming
-	No adhesion
Primer	Recommended primer

Glass	+
Tiles	+
Pine wood	+
Wet ground concrete	+
Concrete, formwork smoothness	Primer 70
Steel DC 04	+
Hot-dip galvanised steel	+
Stainless steel	+
Zinc	+
Aluminium	+
Aluminium AlMg1	+
Aluminium AlCuMg1	+
Aluminium 6016	+
Anodised aluminium	+
Brass MS 63 Hardness F 37	+
PVC Kömadur ES	Primer 100 / Primer 105
PVC soft	Primer 100 / Primer 105
PC Makrolon Makroform 099	+
Polyacrylic PMMA XT 20070 Röhm*1	Primer 40
Polystyrene PS Iroplast	Primer 100 / Primer 105
ABS Metzoplast ABS 7 H	Primer 100 / Primer 105
PET	+
PU waste quality	+
Copper	+
Polycarbonate	+
PMMA Röhm sanitary quality	+
Mirrors*2	+
Natural stone	+

This table is based on adhesion tests with Rocholl test specimens under laboratory conditions. In practice, the adhesive properties depend on a large number of external influences (weathering, contamination, loads, etc.). Therefore, this table is for guidance only and does not constitute a binding statement. For further information please contact our application engineering department. The tests carried out above only refer to the adhesive properties and have no significance in terms of compatibility with the stated substrates.

*1: Different PLEXIGLAS® types exhibit certain differences in their chemical resistance. Stresses must be expected in some applications. The resulting stresses, in combination with certain agents, can lead to "stress cracking". The duration, temperature and concentration of the acting substance have a fundamental influence on any "stress cracks". When using our products in combination with PLEXIGLAS®, the suitability must therefore be checked in advance.

*2: The compatibility with various mirror coatings by different manufacturers is regularly tested in our laboratory. Advance testing is recommended due to production processes of the various manufacturers, into which we have no insights, and as a function of the existing substrate and bonding variants.

4. Application

Can be used for jointing and sealing natural stone elements in floor and wall joints, stairs, etc. Also suitable for sealing in sanitary areas due to fungicidal and bactericidal effect. 445 Stein+Sanitär is suitable for use in cleanrooms. Suitable for mirror perimeter joints with natural stone, metal, glass, etc.



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5. Meets the requirements of IVD instruction sheet

No. 3	Construction and sealing of joints in sanitary and wet areas
No. 14	Sealants and moulds. Causes – prevention - renewal
No. 21	Elastic joint sealing in the food sector
No. 23	Sealing joints and connections to natural stone

6. Processing

General instructions: The expiry date of the material must be observed, otherwise the stated mechanical properties of the product can no longer be guaranteed. Observe the ambient temperature and substrate temperature. **Pre-treatment of the adhesion surfaces:** the adhesion surfaces must be load-bearing, dry, and free of dust, grease, and oil. If required, carefully pretreat the adhesion surfaces using a suitable primer. Observe the flash-off time of approx. 20 minutes! Primer must be applied with extreme care, as there is a risk of staining on some types of natural stone in case of smears or splashes. To avoid contamination before/during and after jointing/processing, the recommended approach is to mask the joint edges (e.g., using "Flachkreppband 1310"). The masking tape must be removed immediately after processing. **Joint design:** For motion compensating joints, the dimensions must be designed to absorb the maximum motion expected. A minimum cross-section of 3x5 mm must be adhered to for the joint. The joint design must comply with the applicable standards and regulations. **Application of the sealant:** Working within the application temperature limits, the product must be applied uniformly to the joint avoiding inclusions. The tooling work must be completed within the stated skin formation time. When reworking, good contact with the adhesive surfaces/joint edges must be ensured (use Ramsauer „506 Glättmittel“ tooling agent). The applied tooling agent must always be fresh and unused. Use the tooling agent sparingly. When using tooling agents, any water streaks that have formed must be removed immediately after sealing, as visual flaws can otherwise be expected. Remove any soiling immediately. Clean processing equipment immediately after work.

7. Application restrictions

Caution: Do not apply primer to the surface of the natural stone slab. Primers create stains which can only be removed mechanically (e.g., by grinding). Use tooling agents sparingly, as they can cause visual flaws of the natural stone in combination with silicone. Substrates containing tar and bitumen are unsuitable as adhesion substrates. Always avoid contact with materials containing bitumen and/or plasticisers, e.g. butyl, neoprene, EPDM, etc. Not suitable for aquarium and terrarium construction due to fungicidal content. Heavy exposure to environmental influences, tobacco smoke, etc., can lead to discolouration of the silicone. Guaranteed avoidance of blinding for mirrors is only valid if the mirror coating has sufficient thickness (0.05 mm) and is undamaged. Due to the different fields of application and mirror coatings, in-house tests must be carried out.

8. Safety instructions

Please refer to the current EC safety data sheets. Data sheets are available at any time from our website at www.ramsauer.eu.



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9. Application notes

Good ventilation must be ensured during processing and curing. Due to the large number of possible influences during processing and application, the processor must always carry out a test processing before use. Note the expiry date of the material. 1-component sealants are not suitable for full-surface bonding. The curing speed increases with increasing coating thickness. If the 1-component material is used in coating thicknesses of more than 15 mm, please contact our application engineering department. If the products are stored and/or transported over a longer period of time (several weeks) at higher temperatures/humidity, the shelf life may be reduced or the material properties may change.

10. Liability for defects

The information, in particular the suggestions for the processing and use of our products, is based on our knowledge and experience in normal use cases at the time of printing. Depending on the specific circumstances, in particular with regard to substrates, processing and environmental conditions, the results may differ from this information. Therefore the guarantee of a work result or a liability, for whatever legal reasons, can be justified neither from these references, nor from a verbal consultation, unless we are guilty of intent or gross negligence in this respect. Ramsauer guarantees that its products comply with the technical properties specified in the technical data sheets until the expiry date.

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