



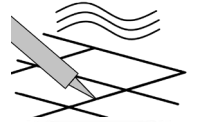
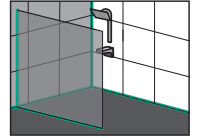
RAMSAUER®

451

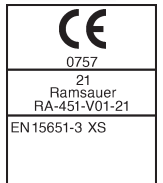
LASTING BONDS.

Sanitär Hybrid

1-component hybrid sealant



SILICONE FREE



Technical data sheet

Version: 04-2024

Tests:

- DIN EN ISO 15651-3 XS1
- EN ISO 846, Methods A, B
- Emission EC1^{PLUS} "very low emissions"
- Fulfills the French VOC requirement Class A+

1. Mechanical Properties

Basis	Hybrid MS polymer sealant
Skin formation time	~ 8 Min. (23°C/50% relative humidity)
Full curing time	~2 mm/24 hours (at +23°C/50% relative humidity)
Density	~ 1.45 (EN ISO 1183-1)
Shore A hardness	~ 30 (DIN EN ISO 868)
Volume shrinkage	~ 3% (EN ISO 10563)
Tear propagation resistance	~ 11.0 N/mm (ISO 34-1)
Tensile stress at break	~ 0.7 N/mm ² (DIN EN ISO 8339)
Module	~ 0.6 N/mm ² (EN ISO 8339)
Elongation at break	~ 150% (DIN EN ISO 8339)
Resistance to high and low temperatures	-40°C to +90°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	310 ml cartridge, other containers on request
Shelf life of cartridges and foil bags	12 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

451 Sanitär Hybrid is a silicone-free 1-component sealant developed for the sanitary sector. The possibility of applying the sealant under water makes it the ideal product for the maintenance sector. Underwater joints can be renewed temporarily (approx. 6 months) without the pools or water basins having to be drained beforehand. Through this property, the use of the systems can be ensured until the routine overhaul without any long-term interruption of operations. Accommodation businesses also benefit from the almost uninterrupted use of sanitary rooms. The 451 Sanitär Hybrid is odourless and free of isocyanates. The sealant does not contain any fungicidal components, is UV- and weather resistant and is perfectly suited to applications in both indoor and outdoor areas. 451 Sanitär Hybrid is resistant to commercially available cleaning agents and disinfectants and is physiologically harmless and inert when vulcanised. It meets the strict requirements of EMICODE EC1^{PLUS} "very low emissions", it is non-corrosive to metal surfaces.



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Key

+	Good adhesion without priming
-	No adhesion
Primer	Recommended primer

3. Priming table

Glass	+
Tiles	+
Pine wood	+
Wet ground concrete	+
Concrete, formwork smoothness	+
Steel DC 04	+
Hot-dip galvanised steel	+
Stainless steel	+
Zinc	+
Aluminium	+
Aluminium AlMg1	+
Aluminium AlCuMg1	Primer 140
Aluminium 6016	+
Anodised aluminium	+
Brass MS 63 Hardness F 37	+
PVC Kömadur ES	+
PVC soft	+
PC Makrolon Makroform 099	Primer 100 / Primer 105
Polyacrylic PMMA XT 20070 Röhm*1	+
Polystyrene PS Iroplast	Primer 100 / Primer 105
ABS Metzoplast ABS 7 H	+
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

451 Sanitär Hybrid is used specifically for sealing perimeter and expansion joints in the sanitary sector. The neutral curing system also makes it suitable for perimeter joints of tiles to stainless steel, aluminium, galvanised sheet metal and masonry. It is particularly suitable in the field of renewal and renovation of joints in the hotel and accommodation industry. Because the odourless sealant achieves excellent adhesion even on damp substrates, downtime can be minimised. Suitable for mirror perimeter joints.



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5. Meets the requirements of IVD instruction sheet

No. 3-1	Construction and sealing of joints in sanitary and wet areas - Part 1: Sealing with sprayable sealants
No. 14	Sealants and moulds. Causes – prevention - renewal
No. 16	Perimeter joints in dry construction. Possible applications of sprayable sealants

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. Before applying, it must be ensured that all building materials in the contact area are compatible with the sealant. **Pretreatment of the adhesion surfaces:** The adhesion surfaces must be load-bearing, free of dust, grease, and oil. If required, carefully pretreat the adhesion surfaces using a suitable primer. Substrates containing tar and bitumen are unsuitable as adhesion substrates or must be tested independently in advance. **Joint design:** For motion compensating joints, the dimensions must be designed to absorb the maximum motion expected. The joint cross-section must be planned in advance and adhered to. Joint dimensions that do not comply with the state of the art are impermissible. Back filling must be effected with a suitable PE-based closed-cell profile. **Application of the sealant:** Working within the application temperature limits, the product must be applied uniformly to the joint avoiding inclusions. If the substrate is pretreated with primer, its flash-off time must be observed. When reworking, good contact with the adhesive surfaces/joint edges must be ensured (use Ramsauer tooling agent). The joint must be tooled within the skin formation time. **Rework:** Any contamination caused by the use of tooling agents must be removed and cleaned up immediately. Contamination from adjacent substrates must be cleaned up when fresh, this is also recommended for contaminated processing equipment.

7. Application restrictions

Caution: The product is not suitable for underwater joints in swimming baths and aquariums. Not suitable for sealing and bonding natural stone (edge zone contamination). Not approved for bonding mirror elements and/or coated glazing units – independent series of tests are recommended for this application. When coating the sealing compound with alkyd resin paints, incompatibilities may occur (curing problems, sticky surfaces, discolourations, etc.). As a general rule, if the hybrid compound is coated subsequently, its compatibility with the coating or paint system used must be checked. Avoid contact with materials containing bitumen and plasticisers, such as butyl, EPDM, neoprene, insulating paints or bituminous coating, etc. Environmental influences (e.g. high temperature, UV exposure, chemical influences such as vapours, etc.) can permanently affect the product's appearance, but this has no negative effect on the product's mechanical properties. Before applying, the user must ascertain that the building materials (solid, liquid or in gaseous form) are compatible with the sealant in the contact area. High substrate or base temperatures during processing can lead to impairments of the mechanical properties.

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.

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.



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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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