



RAMSAUER®

640

LASTING BONDS.

Dicht Kleber

1-component hybrid adhesive



LABS-Konformität:
VDMA 24364-S-L



Technical data sheet

Version: 05-2024

Tests:

- Emission EC1^{PLUS} "very low emissions"
- VOC test IAC-EU
- Tested for use in the foodstuffs industry
- Tested for use in cleanrooms
- DIN EN ISO 846
- Tested for break-in-resistant bonding
- Fulfills the French VOC requirement Class A+
- LABS-conformity: VDMA 24364-S-L

1. Mechanical Properties

Basis	Hybrid adhesive - MS polymer
Skin formation time	~ 8 Min. (23°C/50% relative humidity)
Full curing time	~2.5 mm/24 hours (at +23°C/50% relative humidity)
Density	~ 1.47 (EN ISO 1183-1)
Shore A hardness	~ 44 (DIN EN ISO 868)
Volume shrinkage	~ 2.6% (EN ISO 10563)
Tear propagation resistance	~ 13.2 N/mm (ISO 34-1)
Tensile strength/100%	~ 1.1 N/mm ² (DIN 53504-S2)
Tensile strength/breakage	~ 1.85 N/mm ² (DIN 53504-S2)
Elongation at break	~ 600% (DIN 53504-S2)
Resistance to high and low temperatures	-40°C to +90°C (long-term exposure)
Application temperature (substrate, environment)	Lower +5°C, upper +35°C
Non-sag property	< 3 mm
Colours	White, anthracite, black and grey
Packaging	310 ml cartridges, mini foil bag with 80 ml, and foil bag with 600 ml, other containers on request
Shelf life of cartridges and foil bags	12 months in original packaging in cool and dry storage conditions

2. Properties

640 Dicht Kleber was developed on the basis of an innovative and future-proof trifunctional polymer technology. The product is free from silicone, plasticisers, solvents and isocyanates and does not contain CMRs. 640 Dicht Kleber is UV and weathering resistant, impresses with its very good resistance to high and low temperatures and exhibits virtually no mechanical impairments even when exposed to loads of +110°C over a period of 2 months. The adhesive is virtually odourless after curing and meets the strict requirements of Emission EC1^{PLUS} "very low-emission". Thanks to the supplied screw cap, the adhesive can be used multiple times. Suitable for interior and exterior applications. The product is supplied in an innovative cartridge made of recycled material and can be recycled even more effectively thanks to a special NIR marker.



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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	+
PVC soft	+
PC Makrolon Makroform 099	Primer 100 / Primer 105
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

640 Dicht Kleber supports a wide range of applications. The extraordinary adhesion range enables lasting joints and bonds in a wide variety of materials in interior and exterior applications. The adhesive can be used to seal joints in vehicle, container, bodywork, and technical equipment manufacturing, and for mechanical engineering and cable ducts. The adhesive is also very useful in the ventilation and air supply sectors. 640 Dicht Kleber is suitable for bonding mirrors. Also suitable for surface bonding; this assumes that at least one side of the substrates has a small amount of moisture (dew moisture), as this catalyses the system. For bonding of painted or coated glass, please contact our application engineering department.



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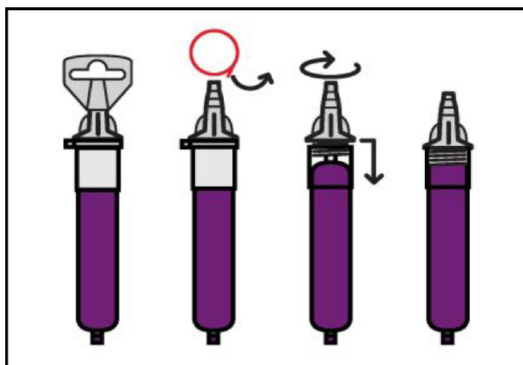
5. Meets the requirements of IVD instruction sheet

No. 19-1	Sealing of joints and connections in the roof area. Possible applications of sprayable sealants, assembly adhesives, butyl sealing tapes and profiles.
No. 30	Assembly adhesive for bonding and sealing

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. **Pretreatment of the bonding surfaces:** The materials to be sealed must be load-bearing, and free of dust, grease, and oil before applying 640 Dicht Kleber. Compatibility with various coatings, e.g., paints, varnishes, plastics, etc., must be checked prior to application or must be ensured with the sealant. 640 Dicht Kleber has an exceptional adhesion spectrum for a wide range of different substrates. We recommend priming for optimum adhesion above all on absorbent/porous or mainly alkaline substrates. **Bonding:** Apply beads of adhesive to one side of the substrate, and complete bonding within the skin formation time. For mirror bonding, always observe the applicable technical guidelines for the glazing trade. A manual or pneumatic applicator is used for processing. Adding moisture and higher temperatures can help to accelerate the curing speed.

Processing instructions 80 ml foil tube: Our 80 ml foil tube impresses with a new opening system. This prevents contamination when opening the container. Simply twist off the white tear-off tape completely and screw the nozzle tip on firmly. The foil bag is opened by the innovative closure system and the material can be processed. The nozzle tip can be cut to fit the desired opening, as required, using a sharp knife.



7. Application restrictions

Caution: 640 Dicht Kleber is not approved for applications with natural stone. In the case of special applications or processing in applications with natural stone, it is essential to carry out preliminary tests or to consult our application engineering department. Suitable for break-in-resistant RC2/RC3 bonding. **CAUTION:** It is the construction element manufacturer's responsibility to ensure the compatibility of the adhesive used with the edge seal of the glazing, the glazing blocks used and the top coat of the frame structure. For concrete joints, please ensure that the edges are free from slurry. Additionally, the alkalinity of the concrete must not be too high. As of a pH value >9, we recommend priming with our alkaline-resistant "Primer 160". 640 Dicht Kleber has no inherent adhesion properties on polyolefins and Teflon. In case of bonded joints or seals exposed to UV in glass or transparent plastics, please contact our application engineering department. Not suitable for processing in wet or underwater areas. For use in conjunction with roofing membranes and/or roofing foils, please contact our application engineering department. Not suitable for bonding structural glazing. In case of powder coating, please contact our application engineering department.



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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.

Occupational health and safety: Avoid swallowing, prolonged or repeated contact with the skin. Keep out of the reach of children. Request a safety data sheet!

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. 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. Prior to processing, the user must ensure that the components (gaseous, liquid or solid) coming into contact with the sealant/adhesive are compatible and that no damage or impairments can be caused. For full-surface bonding of vapour-tight substrates, one bonding side must be moistened (caution: avoid accumulations of water!).

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, with regard to the substrate, processing and environmental conditions, the results may differ from our information. No warranty or liability claim for any reason whatsoever arises from these instructions or from any instructions issued verbally. Ramsauer guarantees that its products comply with the technical properties specified in the technical data sheets until the expiry date.

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