Technical data sheet

merz+benteli ag

Merbenit ST 50

merz + benteli

Sprayable, elastic, 1-component sealant and adhesive based on SMP. Suitable for large area bonding. Seam and joint seals with different surface structures can be applied.

Product advantages

- Sprayable
- Long processing time
- Free of solvents, isocyanates and silicones
- Very wide adhesion range
- Odourless
- Compatible with paints
- Shortly resistant up to +200°C for powder and thermal coating
- Adjustable
- Gap and crack bridging
- Permanently elastic
- Very good sealing properties
- Non-corrosive on surfaces
- Impact and vibration resistant (shock absorbing)

Technical data

Chemical base	Silane modified polymer
Mechanism of curing	1 comp. moisture curing
Shore A hardness, DIN 53505	52
Modulus elongation at 100%, DIN 53504 S2 *	ca. 1.7 N/mm²
Elongation at break, DIN 53504 S2 *	ca. 200 %
Tensile strength, DIN 53504 S2 *	ca. 2.3 N/mm²
Consistency	sprayable
Tooling time	max. 25 min.
Curing rate after 24h	≥ 2.5 mm
Curing rate after 48h	≥ 3.5 mm
Density	1.40 ± 0.05 g/cm³
Volume change, DIN EN ISO 10563	≤ 3 %
Temperature resistance after curing	- 40 °C to + 90 °C
Application temperature	+ 5 °C to + 40 °C

All measurements were performed under normal conditions (23 °C and 50 % relative humidity).

* The data are based on measurements after 7 days.

Application

Flexible large surface bonding and sealing in the areas of metal, apparatus and machine construction, plastics technology, air-conditioning and ventilation systems, car body, wagon, vehicle and container construction. The neutral polymerisation allows a connection without thermal or chemical pre-treatment of the assembly parts. Counterbalancing tolerances. Seam seals are visually identical to plastisol seams.

Substrate range

Suitable materials are metals, powder-coated, varnished, galvanised, anodised, chromed or hot zinc dipped surfaces, various plastics, ceramics, stone, concrete and wood. Due to the large variety of different plastics and compositions as well as materials which are susceptible to cracks, preliminary tests are recommended.

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Substrate preparation
To achieve reproductible results the substrate has to be pre-treated according to the state of technology. All undefined surfaces must be removed using suitable methods. Apply the adhesive/sealant promptly to the prepared surface. Depending on the substrate and the expected requirements a mechanical or chemical pre-treatment is recommended respectively cleaning with rubbing alcohol, isopropyl or acetone. For application the surface has to be clean, durable and free of dust, oil and grease. The compatibility with adjacent materials, coatings etc. must be determined in advance.

Adhesion promoter
With most materials a good adhesion is achieved even without adhesion promoter. In the case of high moisture influence we recommend our Adhesion Promoter V40 on non-porous materials, Adhesion Promoter V21 on open porous materials. For thermo-painted or powder-coated surfaces and plastic materials we recommend our Adhesion Promoter V40. Preliminary tests are recommended.

Processing
- Can be applied directly from the cartridge / bag using a suitable caulking gun (manual, air, battery)
- The product can be spread with a spatula or brush on the surface
- For large area bonds the product can be applied with a notched trowel on the surface
- Spray pattern can be applied with an air and application quantity controlling spray caulking gun. All structure types according to OEM (Original Equipement Manufacturer) can be set. The width and limitation of the seam can be additionally varied by the spraying distance. For bonding on large surfaces the curing can be significantly accelerated with spraying water (approx. 10g/m²)
- The bonding must take place within the processing time
- Non-cured adhesive can be removed with rubbing alcohol or isopropyl
- Cured adhesive can only be removed mechanically

Paint compatibility
Due to the diversity of varnishes and paints on the market we recommend preliminary tests. For burning process the material can be exposed, when fully cured, in short term to elevated temperatures.

Chemical resistance
- Good against water, aliphatic solvents, oils, grease, diluted inorganic acids and alkalis
- Moderate against esters, ketone and aromatics
- Not resistant against concentrated acids and chlorinated hydrocarbons

Shelf life and storage conditions
- Shelf life depending on packaging
- Store cool and dry (10 - 25 °C)
- Further information on request

Work and environmental safety
Important information about work and environmental safety is available on the material safety data sheet.

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