Technical data sheet

Merbenit SF50

Merbenit SF50 is a permanently flexible adhesive with high and especially quick strength build-up. Adheres thanks to SMP base to various materials and surfaces.

Product advantages

- Fast cross-linking even at low temperatures
- High final strength
- Simple processing
- Free of solvents, isocyanates and silicones
- Very wide adhesion range
- Odourless
- Chemical neutral polymerisation
- Compatible with paints
- Shortly resistant up to +200°C for powder and thermal coating
- Adjustable
- Permanently elastic from - 40°C to + 90°C
- 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	50
Modulus elongation at 100%, DIN 53504 S2	ca. 2.2 N/mm²
Elongation at break, DIN 53504 S2	ca. 200%
Tensile strength, DIN 53504 S2	ca. 3.4 N/mm²
Consistency	stable
Tooling time	max. 8 min.
Curing rate after 24h	≥ 3.5 mm
Curing rate after 48h	≥ 4.5 mm
Density	1.40 ± 0.05 g/cm³
Volume change, DIN EN ISO 10563	≤ 7%
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 the results after 3 months.

Application

Flexible bonding in the areas of metal, apparatus and machine construction, plastics technology, air-conditioning and ventilation systems, car body, wagon, vehicle and container construction. Thanks to fast cross-linking it is possible to bond parts in a continous working process. The neutral polymerisation allows a connection without thermal or chemical pre-treatment of the assembly parts. Counterbalancing tolerances.

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)
- Cut the nozzle tip according to the joint width
- V-nozzles are recommended for bonding applications
- Depending on the bonding surface, material expansion, tension and mechanical stresses a layer thickness of 1 - 6 mm is recommended
- Can be applied with automatic dispension equipment
- For vapour permeable substrates the material can be applied in a large area using a notched trowel
- 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. Using paints based on alkyd resins may delay the drying process. After cleaning with acetone joints can be varnished at any time. 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

Colours
- black
- grey
- white
- other colours on request

Packaging
- Cartridges of 290 ml in boxes of 12 units
- Sausages of 600 ml in boxes of 12 units
- Hobbocks of 20 liter on palet of 16 units

Shelf life and storage conditions
- 15 months from date of production
- 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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