4040
SMP | Silane modified polymer

RAMSAUER INDUSTRY

Technical data sheet
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1. Properties
- SMP | free of silicone, isocyanate and solvents
- RTV1 compound
- odourless
- virtually shrink-free cross-linking
- particularly resistant to UV rays, ageing and weathering
- excellent adhesion to various materials
- adheres even to damp surfaces
- temperature resistance at long term exposure from -40 °C to +110 °C
- EMICODE® EC 1^{PLUS} ‚very low emission'

2. Areas of application
- Due to its fast curing time, it is ideal for applications with tight deadlines.
- For bonding in the automotive, transportation and caravan industries.
- For dynamically loaded applications in boat, yacht, ship and container construction.
- For producing elastic bonds in metalworking, apparatus engineering and mechanical engineering.

3. Technical data

CTM*	Standard	Feature	Unit	Value
		Base		SMP
		Curing mechanism		RTV 1
		Skin formation time at +23 °C | 50 % RH	mins	~ 6
		Full curing time at +23 °C | 50 % RH	mm/24 hrs	~ 2.80
	EN ISO 1183-1	Density	g/cm³	~ 1.43
	DIN EN ISO 868	Shore A hardness		~ 45
	EN ISO 10563	Volume shrinkage	%	~ 2.60
		Initial tack		medium/high
	DIN 53504-S2	Elongation at break	%	~ 475
	DIN 53504-S2	Tensile strength	N/mm²	~ 2.80
	DIN 53504-S2	Modulus of elasticity 100 %	N/mm²	~ 1.20
	DIN ISO 34-1	Tear resistance	N/mm	~ 14.00
		Temperature resistance (long term exposure)	°C	-40 to +110
		Processing temperature	°C	+5 to +35
f-1-0/g-1-0		Shear stress | 51/s	Pa	~ 6170
f-1-0/g-1-0		Viscosity | 51/s	Pa·s	~ 121
	DIN EN ISO 8394-1	Extrusion rate 310 ml cartridge	g/min	~ 117
		Electrical conductivity (volume resistance)	Ω·cm	> 1 x 10^{10}
		Thermal conductivity	W/(m·K)	~ 0.37
		Colours	White, black	
		Packaging	Barrel, hobbock, 400 & 600 ml film bag, 310 ml cartridge	
		Shelf life	Barrel/hobbock: 6 months Film bag/cartridge: 18 months (when stored in a cool and dry place in the original container)	

* Corporate Test Method | CTM copies available on request

4. Substrate preparation

The adhesive surfaces must be stable and free of dust, oil and grease. On non-absorbent substrates, pre-cleaning with 828 Basic Cleaner is recommended. For sensitive surfaces, compatibility should be checked in advance to avoid surface damage. If necessary, carefully pre-treat the adhesive surfaces with a suitable primer. Sanding with fine abrasive fleece can further improve adhesion on smooth surfaces.

5. Processing

General information: 4040 can be processed at substrate and ambient temperatures between +5 °C and +35 °C. The ideal processing temperature is about +20 °C. The viscosity of the uncured material is temperature-dependent, meaning that viscosity increases at low temperatures and decreases at high temperatures. In addition, a variety of external influences, such as humidity, UV exposure, chemical influences, high temperatures, etc., must be taken into account. These and other factors can have a significant effect on the material properties of the product and its shelf life. The expiry date stated on the product must be strictly adhered to, as the product properties can no longer be guaranteed if this date is exceeded. Good ventilation must be ensured during processing and curing.

Processing: Before application, the processor must ensure that all materials that come into contact with the product do not cause any incompatibilities. For large-area bonding, 4040 can be applied either with a notched trowel or in a bead pattern, but under no circumstances should it be smoothed, as this might impair the curing process. Depending on the size of the application area, the formation of the vulcanisate and the development of adhesive strength may be delayed. When using a primer, observe its flash-off time. When processing vapour-proof substrates over a large area, one of the adhesive surfaces must be moistened with dew. The supply of moisture and higher temperatures accelerate the curing speed. 4040 must be applied to one side of the substrate and joined within the skin formation time.

Removal: Uncured 4040 can be removed with 502 Surface Cleaner or 504 Universal Cleaning Wipes, while cured material can only be removed mechanically. If it comes into contact with the skin, it must be cleaned immediately.

6. Application restrictions

- Avoid contact with bitumen-containing and plasticiser-releasing materials, such as butyl, EPDM, neoprene, etc.
- Not suitable for backfilling to a depth of more than 15 mm.
- Without pre-treatment, no adhesion to plastics with low-energy surfaces, such as PE, PP or PTFE.
- In applications with very high UV exposure, the compound should be permanently protected using cover strips, suitable UV protection or UV film.
- Not suitable for underwater or natural stone applications.

7. Safety notices

All safety notices and instructions are listed in the current safety data sheet available on **www.ramsauer.eu**.

8. Liability for defects

All information, in particular suggestions for the processing and use of our products, is based on our knowledge and previous experience. Depending on the specific circumstances, in particular with regard to the substrate, processing and environmental conditions, the results may differ from our specifications. Therefore, no guarantee can be given for the quality of the results achieved, which are influenced by the aforementioned circumstances. No legal claims of any kind can be asserted against Ramsauer GmbH & Co KG on the basis of this information or verbal advice, provided that we are not guilty of intent or gross negligence. Ramsauer GmbH & Co KG guarantees that its products will retain their technical properties as specified in the technical data sheets until their expiry date. Product users must observe the latest technical data sheet, which can be downloaded from our website at **www.ramsauer.eu**. Our current General Terms and Conditions apply. These are also available on our website. With the publication of a new version or revision of a technical data sheet, all previous versions of the respective product lose their validity.