TEROSON

Technical Data Sheet

TEROSON MS 939 FR

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PRODUCT DESCRIPTION

TEROSON MS 939 FR provides the following product characteristics:

Technology	Silane-modified polymer
Product Type	Adhesive/Sealant
Components	One-component
Cure	Humidity
Application	Assembly
Appearance	Black, Grey
Consistency	Pasty, Thixotropic
Odor	Characteristic

TEROSON MS 939 FR is a gun-grade, one component sealant/adhesive based on silane modified polymer, which cures by reaction with moisture to an elastic product.The skin formation and curing times are dependent on humidity and temperature, and the curing time also depends on joint depth. By increasing the temperature and moisture these times can be reduced; low temperature as well as low moisture retard the process. TEROSON MS 939 FR is free of solvents, isocyanates, silicones and PVC. It demonstrates good adhesion to many substrates and is compatible with suitable paint systems. The sealant also demonstrates good UV resistance and can therefore be used for interior and exterior applications. TEROSON MS 939 FR demonstrates the strength necessary for elastic bonding.TEROSON MS 939 FR is a flame retardant sealant and is therefore used for applications where reduced inflammability and low combustibility is needed, for example in vehicle construction.

Application Areas:
Material can be applied at room temperature. For high volume applications where more flow is required it can be warmed up to 35° C which will reduce the viscosity.

- The entire equipment, including hoses and pipes, must be moisture tight.
- The follower plate must be driven by a double ram.
- Necessity of centering the container.
- It is recommended to switch off heating during a shutdown of more than 1 hour.
- The adhesive is applied from pails or drums using high pressure piston pumps with a pneumatic ratio minimum 55:1.

Due to the various application conditions it is recommended to follow the references in the data sheet. The data sheet also provides necessary information about suitable application equipment and conditions. For further information, please contact your local sales representative.

TECHNICAL DATA

Density, g/cm³	approx. 1.45
Sag resistance:	no sagging (DIN profile 15 mm)
Skin formation time, min*:	approx. 6 to 20
Cure rate, mm/24 hrs:	approx. 3
Shore-A-hardness: (ISO 868, Durometer A)	approx. 55
Tensile strength (acc. to ISO 37), MPa:	approx. 3.5
Elongation at break (acc. to ISO 37, speed 200 mm/min),%:	approx. 180
Stress at 100 % elongation (acc. to ISO 37), MPa:	approx. 2.1
Volume change (acc. to DIN 52451), %:	<2
UV resistance:	No signif. changes
UV source:	Osram Vitalux 300W, dry UV
Distance to the specimen, cm:	25
Test period, weeks:	6
Application temperature, °C:	5 to 40
In service temperature range, °C:	-40 to +100
Short exposure (up to 1 h), °C:	120
* ISO 291 standard climate:	23°C, 50% relative air humidity
Fire resistance (acc. to EN 45545-2) :	R1 HL2, R7 HL3 and R22/R23 HL2

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DIRECTIONS FOR USE

Preliminary Statement:
Prior to application it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed.

Pre-Treatment:
The substrates must be clean, dry, oil and grease free. Cleaners TEROSON PU 8550 or TEROSON VR 10 are recommended for this. Depending on the surface it can be necessary to roughen the surface or to use a primer/adhesion promoter e.g. TEROSON PU 8517 H or TEROSON SB 450 to provide best adhesion. When manufacturing plastics, external release agents are often used; these agents must be accurately removed first. Due to the different compositions of paints, especially powder paints and the large number of different substrates, application trials before use are necessary.

Application:
Application from 290 mL cartridges is made with the TEROSON Hand or Air Pressure Pistols, and from foil cartridges (310 and 570 mL) with the corresponding FK-Hand or FK-Air Pressure Pistols. In the case of compressed air application a pressure of 2 to 5 bar is required. Low material temperatures of the sealant will lead to an increase of viscosity, resulting in a lower extrusion rate. This can be avoided by bringing the sealant up to room temperature prior to application. TEROSON MS 939 FR can also be applied from hobbocks or drums with high pressure pumps with follower plates. See separate application directions of Teroson MS products in hobbocks and drums.

Cleaning:
For cleaning application equipment contaminated with uncured TEROSON MS 939 FR we recommend the use of Cleaner TEROSON VR 10.

Classification:

Please refer to the corresponding **Safety Data Sheets** for details on:
Hazards identification
Transport information
Regulatory information

Storage:

Frost-Sensitive	No
Recommended storage temperature, °C	10 to 25
Shelf-life (in unopened original packaging), months	12

ADDITIONAL INFORMATION

Disclaimer:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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Reference 0.4