



Terostat MS 939 FR

16 March 2011

PRODUCT DESCRIPTION

Terostat 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
Consistency	Pasty, Thixotropic
Odor	Characteristic

Terostat 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. Terostat 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. Terostat MS 939 FR demonstrates the strength necessary for elastic bonding. This property of the product also remains at the temperatures in repair ovens (max. 100°C). Terostat MS 939 FR shows no shrinkage, and therefore dimpling and tension stress are not observed under these conditions. Terostat 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:

Terostat MS 939 FR is used for the following applications: elastic bonding of metals and plastics, e.g. side panelling and bonding of the roof skin in the vehicle and caravan manufacture. elastic, interior and/or exterior seam and joint sealing in the following areas. vehicle body, caravan, railway carriage, container and general metal construction; the electrical, plastics, air-conditioning and ventilation industries

TECHNICAL DATA

Density, g/cm ³ :	approx. 1.45
Sag resistance:	no sagging (DIN profile 15 mm)
Skin formation time, min*:	approx. 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

Certificates and Approvals

- Flammability acc. to DIN 5510

Compuability level:	S4
Smoke generation level:	SR 2
Dripping level:	ST 2

- NF P 92-501 "Epiradiateur"; classification M1
- NF P 16-101 "Epiradiateur and emission": classification F0

DIRECTIONS OF 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. Depending on the surface it can be necessary to roughen the surface or to use a primer/adhesion promoter to provide best adhesion. When manufacturing plastics, external release agents are often used; these agents must be accurately removed prior to starting bonding or sealing. Due to the different compositions of paints, especially powder paints and the large number of different substrates, application trials before use are necessary. For cleaning, Cleaner + Diluent A, FL or Terostat 450 from the Henkel portfolio are suitable. When bonding and sealing PMMA, e.g. Plexiglas®, and polycarbonate, e.g. Makrolon® or Lexan®, under tension, stress corrosion cracking may occur. Application trials before use are necessary. There is no adhesion to polyethylene, polypropylene and PTFE (e.g. Teflon®). Substrates not mentioned above should be subject to trials.

Application:

Application from 310 ml cartridges is made with the Teroson Hand or Air Pressure Pistols, and from plastic wallets (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. If substrates are too cold, temperature may fall below dew point causing condensation. This can be avoided by bringing the substrates up to room temperature in time. Terostat MS 939 FR can also be applied from hobbocks or drums with high pressure pumps with follower plates. See separate application directions of Terostat MS products in hobbocks and drums.

Cleaning:

For cleaning application equipment contaminated with uncured Terostat MS 939 FR we recommend the use of cleaners + diluents A or FL.

STORAGE

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

ADDITIONAL INFORMATION

Disclaimer:

The Information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials used as well as to varying working conditions beyond our control we strictly recommend to carry out intensive trials to test the suitability of our products with regard to the required processes and applications. We do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases where we are liable of gross negligence or false intention.

This datasheet replaces all former versions.

Reference 0.1