TEROSON

Technical Data Sheet

TEROSON MS 939

April 2019

PRODUCT DESCRIPTION

TEROSON MS 939 provides the following product characteristics:

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

TEROSON MS 939 is a gun-grade, one-component adhesive/sealant based on silane modified polymers, 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 is particularly sag-resistant leading to a high position tack after matching of the parts to be bonded.
TEROSON MS 939 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 demonstrates the strength necessary for elastic bonding.
TEROSON MS 939 allows accelerated curing as two-component material
See separate data sheets Teroson MS Power & Speed Technology or Teroson MS 2c-Technology.

Application Areas:
TEROSON MS 939 can be 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; electrical, plastics, air- conditioning and ventilation industries

TECHNICAL DATA

Density, g/cm³, white, off-white, grey, black:	approx. 1.5
Sag resistance:	no sagging (DIN profile 15 mm)
Skin formation time, min*:	approx. 4 to 10
Cure rate, mm/24 hrs:	approx. 3
Shore-A-hardness (ISO 868, Durometer A):	approx. 55
Tensile strength (acc. to ISO 37), MPa:	approx. 3.0
Elongation at break (acc. to ISO 37, speed 200 mm/min),%:	approx. 250
Stress at 100 % elongation (acc. to ISO 37), MPa:	approx. 1.3
Volume change (acc. to DIN 52451), %:	<2
Paint compatibility:	in principle compatible
UV resistance:	no signif. changes
UV source:	Osram Vitalux 300W, dry UV
Distance to the specimen, cm:	25
Test period, weeks:	6
QUV resistance:	no signif. changes
QUV source:	QUV weatherometer acc. to DIN 53384-A
Test period, weeks:	6
Reference IEC 61215/61646 clause 10.13:	
Damp heat test durability **:	given
Test period, hours:	1,000
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
**Damp heat conditions:	85°C, 85% relative air humidity

DIRECTIONS OF USE

Preliminary Statement:
Prior to use 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, TEROSON VR 10 or TEROSON SB 450 from the Henkel portfolio are suitable.
Especially for plastics and coatings - powder coatings - TEROSON SB 450 has to be tested.
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. Substrates not mentioned above should be subject to trials

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 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 we recommend the use of cleaners + diluents TEROSON VR 30 or TEROSON VR 10.

Storage:

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

ADDITIONAL INFORMATION
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.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:
In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:
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. 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.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage
Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.3