

# TEROSON EP 3919 S

November 2013

## PRODUCT DESCRIPTION

<b>Technology</b>	Epoxy Resin
<b>Product Type</b>	Flange Bonding
<b>Additional Information</b>	Pre-gellable

TEROSON EP 3919 S is a heat curing, solvent free, one component adhesive, based on toughened Epoxy resins. In order to obtain first strengths and wash-off resistance the material should be pregelled. TEROSON EP 3919 S adheres very well to oily metal, zinc coated surfaces and aluminum alloys. It demonstrates high strength on many substrates and good corrosion protection. It is free of solvents and free of PVC.

## APPLICATION AREAS

TEROSON EP 3919 S is used in the automotive body shop for hem flange bonding.

## TECHNICAL DATA (Typical Test Results)

### Uncured

Colour	black
Density	approx. 1.3 g/cm <sup>3</sup>
Consistency	pasty
Viscosity (Oscillation)	40 Pas
Equipment	P/P 20 mm Ø
Temperature	20 °C
Shear rate	100 s-1

### Cured (25 min. at 175 °C)

Material Data:	
E-Modulus	1,000 MPa
Tensile strength	15 MPa
Elongation at break	5 %
Poisson rate	0.3
Shear strength (DIN EN 1465)	approx. 16 MPa
bonding area	25 x 12 mm
layer thickness	0.3 mm
substrate	0.75 mm HDG
Corrosion resistance	
salt spray test (35°C, salt solution 5%, 1,000 hours)	no loss of adhesion, no corrosion
corrosion test VDA 621-415 (10 rounds)	no loss of adhesion, no corrosion
In service temperature range	-40 to 90 °C

## PRELIMINARY STATEMENT

Prior to application it is necessary to read the **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.

## APPLICATION

TEROSON EP 3919 S is applied from pails or drums using high pressure pumps with a compression ratio minimum 50:1. For the best application the use of volume controlled dispensers is preferred. The heated application pistol can be used either manually or on a fixed jig. More commonly is attached to an automatic application system (robot, CNC). The material can be applied by extrusion or by using Swirl or Jet-Stream systems. It is recommended to switch off heating during a shutdown of more than 1 hour. The pressure should be switched off after 15 minutes of non-production. Independent heating circuits should have the lowest temperature at the follower plate and the highest temperature at the application nozzle. To ensure an optimal wetting to the substrate TEROSON EP 3919 S should be applied at elevated temperatures. The material is applied directly to oily sheet metal no more than 3 g/m<sup>2</sup>. If required, we will provide you with the additional information on suitable application equipment.

### Recommended material temperature:

Follower plate and pump:	15 to 25 °C
Temperature at the nozzle:	30 to 40 °C

## PREGELLING

The minimum curing gelling temperature is 120 °C. This can be done by induction or IR heating, in a convection oven or by inductive heating.

## CURING

TEROSON EP 3919 S is cured while passing the EC oven, e.g. 15 minutes at 175 °C. The minimum curing cycle is 10 min at 160 °C. These are effective metal temperatures.

## CLEANING

Fresh, uncured material can be removed with the aid of ethylacetate or gasoline. Cured adhesive can only be removed mechanically.



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## STORAGE

Frost sensitive	no
Recommended storage temperature	5 to 25 °C
Shelf life	6 months

## Disclaimer

### Note:

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.

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