

## TEROSON EP 5089

December 2022

### PRODUCT DESCRIPTION

TEROSON EP 5089 provides the following product characteristics:

<b>Technology</b>	Epoxy Resin
<b>Product Type</b>	Structural Adhesive Hem flange bonding
<b>Additional Information</b>	High crash resistant

TEROSON EP 5089 is a heat curing, solvent free, one component adhesive, based on toughened Epoxy resins. It has been specially developed to provide high peel and impact peel resistance over a wide temperature range. The special viscosity of the product makes it wash-off resistant in all usual automotive pre-treatment lines. Due to its nanoparticles and toughened epoxy resins, Teroson EP 5089 performs well to typical torsional and crash forces.

### Application Areas:

TEROSON EP 5089 is used in the automotive body shop for structural and hem flange bonding. It is special designed for bare steel, zinc coated surfaces and aluminum alloys used in the automotive industry, where high strength and corrosion protection properties are required. Teroson EP 5089 is used for adhesive bonds also in combination with other joining techniques, such as spot welding, which require higher shear strength and specially impact peel (crash) resistance.

### TECHNICAL DATA

(Typical Test Results)

#### Uncured

Colour	purple
Density, g/cm <sup>3</sup>	1.2
Consistency	pasty
Solids, %	>99
Viscosity (DIN 54458), Pa.s	250
Equipment	Plate/Plate 25 mm Ø
Temperature, °C	45
Deformation, %	10
Frequency, Hz	10

#### Cured (25 min. at 175 °C)

Material Data:

E-Modulus, GPa	1.6
Tensile strength, MPa	35
Elongation at break, %	10
Poisson rate	0.4
Shear strength (DIN EN 1465), MPa	>20
Layer thickness, mm	0.2

Bonding area, mm	25x10
Substrate	HDG/EGS 0.75 mm
Impact-Peel, N/mm	>25

Corrosion resistance	
salt spray test (35°C, salt solution 5%, 1,000 hours)	no loss of adhesion, no corrosion
In service temperature range, °C	-40 to 90

### DIRECTIONS FOR USE

#### Preliminary Statement:

Prior to use 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 5089 is applied from pails or drums using high pressure pumps with a compression ratio minimum of 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). 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 5089 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, °C	25 to 35
Temperature at the nozzle, °C	35 to 55

#### Curing:

TEROSON EP 5089 is cured while passing the EC oven, e.g. 15 minutes at 175 °C. The minimum curing cycle is 10 min at 150 °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.

**Classification:**

Please refer to the corresponding **Material Safety Data Sheets** for details on:

**Hazards identification**  
**Transport information**  
**Regulatory information**

**Storage:**

Frost sensitive	no
Recommended storage temperature, °C	5 to 25
Shelf- life, months	4

\* If constantly stored below 7 °C, shelf life could be extended up to 12 months.

**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.

**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 3.1