



TEROSON®

Technical Data Sheet

TEROSON EP 5089

December 2022

PRODUCT DESCRIPTION

TEROSON EP 5089 provides the following product characteristics:

Technology	Epoxy Resin
Product Type	Structural Adhesive Hem flange bonding
Additional Information	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 ³	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/m². 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.

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Reference 3.1

