TEROSON

Technical Data Sheet

TEROSON EP 5016

December 2021

PRODUCT DESCRIPTION

Technology	Epoxy Resin
Product Type	Structural Adhesive Hem flange
Additional Information	Flexible

TEROSON EP 5016 is a heat curing, solvent free, metal to metal adhesive with good storage stability based on epoxy resins. The material can be spot-welded through and will reach maximum strength with curing temperatures of 155 to 200°C. The product exhibits excellent strength and corrosion resistance at temperature extremes or after extensive aging and weathering. TEROSON EP 5016 provides exceptional impact resistance over a wide temperature range.

Application Areas:
TEROSON EP 5016 is used in the body shop for metal bonding. Application of TEROSON EP 5016 provides improved impact resistance, stiffness, and durability in the structure.

TECHNICAL DATA

Colour	Purple
Consistency	Paste
Specific gravity	< 1.2
Solids content, %	> 99
Viscosity at 20°C, Ps *Brookfield viscometer, Spindle #7, 2 rpm*	15,000 ± 1,500
Sag resistance	Good
Corrosion resistance	Good
Lap shear strength, MPa	> 25
T-Peel strength, N/25mm	> 250
Impact peel, N/mm	> 35
Application temperature, °C	30 to 40

DIRECTIONS FOR 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.

Operating Summary:

- It is recommended that testing is completed on substrates to be used to validate this material prior to use.
- To obtain optimum strength the following cure conditions have proven successful:
  > 10 min @ 155°C metal temperature
  < 30 min @ 205°C metal temperature
- Deviations from cure cycle may result in deviations from the shear strength which may interfere with material performance.

General Information:

- Shutdown - For extended shutdown periods, greater than 8 hours, it is recommended that pressure be removed from the system to reduce possibility of caking in lines.
- Material Purge - Regular purge and cleaning of the application system is recommended, please contact your sales representative for material requirements and instructions.
- As with all materials, it is recommended that to ensure consistent material, this product is used in a First In - First Out stock rotation system.

Equipment:
It is recommended that this material should be dispensed using a pumping system. This should include a high-pressure ratio pump, with a minimum compression ratio of 55:1. Care should be taken in system design to ensure that flow restrictions are minimized. Flow restrictions occur when headers, horses and/or nozzles are too small for the application. By reducing flow restriction, it is possible that lower ratio pumps can be used.

Equipment with piston, gear, or rotary pumps is suitable for the application of TEROSON EP 5016 from pails or drums.

The nozzle should be heated to 40ºC (104ºF) to increase flow and improve initial adhesion to oily substrates.

If for certain reasons application temperature is above 40ºC (104ºF), it should be reduced below because viscosity stability is diminished at higher temperatures.

The application pistol can be used either manually, on a fixed basis, or attached to an automotive application system (robot, CNC). The applicator nozzle may be designed according to individual requirement.

For smaller production as well as preliminary tests TEROSON EP 5016 can also be supplied in 310 mL cartridges. These cartridges may be heated up to temperatures of 40ºC (104ºF) in a standard laboratory convection oven for about 30 to 45 minutes and finally be applied using standard cartridge guns. (Warning: Risk of burning, wear protective gloves!). If available, using special air-powered guns are even more convenient.

If required, we can provide the necessary information on suitable application equipment.

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The product is applied to various metal substrates that have not been pre-heated, and this can be carried out very neatly. TEROSON EP 5016 achieves its final properties at temperatures above 155ºC (EC oven, primer and paint oven).

Metal Surface Preparation:
This material has been developed to adhere to a wide variety of material surfaces. While no pre-cleaning of the substrates is required, removal of excess lubricants is desirable and clean substrate is preferred. For best performance, substrate should be free of contamination before material is applied. Cleaning of the substrates can be through chemical and/or mechanical methods.

Conversions:
(°C x 1.8) + 32 = °F
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm2 x 145 = psi
MPa x 145 = psi

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	< 25
Shelf- life, months	3

Material removed from containers may be contaminated during use. Do not return product to the original container.

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.

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