TEROSON®

Technical Data Sheet

TEROSON® EP 1401

Known as Structural Foam
November 2024

PRODUCT DESCRIPTION

TEROSON® EP 1401 Structural Foam provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (resin)	Dark grey
Appearance (hardener)	Yellowish
Appearance (mixed)	Grey
Components	Two components – requires mixing
Viscosity	Medium to high
Mix ratio, (by volume) Resin : Hardener	2:1
Cure	Room temperature cure after mixing, foaming at elevated temperature
Application	Structural foam
In service temperature	-40 to 90°C (-40 to 194°F)
Specific Benefits	• Structural foam to reinforce sheet metals • Expands with heat curing • Excellent adhesion to metals • Excellent corrosion protection • Lead free, solvent free • No shrinking

TEROSON® EP 1401 is a solvent free, slightly expanding, two component adhesive, based on flexibilized and toughened epoxy resins. The material cures at room temperature by reaction of component A and B. By heating up to a temperature above 70°C, the material starts to expand. Dependent on the geometry and amount of material, the degree of foaming can vary.

TEROSON® EP 1401 contains hollow microspheres, by which stiffness, strength and fatigue limit is increased.

TEROSON® EP 1401 is used as reinforcement e.g. for cavities, metal sheets and structural parts. Observe OEM instructions.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin
Specific Gravity @ 23°C 0.87

Hardener
Specific Gravity @ 23°C 0.57

TYPICAL CURING PERFORMANCE

Working time
Working Time @ 23°C, minutes 90

Final Cure Time
Final Cure, Accelerated Cure @ 80°C, minutes 30

TYPICAL PERFORMANCE OF CURED MATERIAL

Physical Properties

Specific Gravity @ 23°C Weight gain, 24h at 98% RH, 40°C		0.7 <0.5%
Elongation, at break, ISO 527, %		7
E-Modulus, ISO 527, cured for 7 days @ 23°C	N/mm^2 (psi)	700 (101,500)
Compressive Strength	N/mm^2 (psi)	15 to 20 (2,200 to 2,900)
Poisson Ratio		0.22 to 0.26
Volume Change, depending on curing		0 to 30 %

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

DIRECTION FOR USE

Pretreatment:

1. Surfaces must be free of oil, grease, dust, or any other contaminant. Pretreat bonding surfaces with TEROSON® VR 10 and a lint-free cloth.
2. Allow the prepared surfaces to evaporate for approx. 5 minutes.

Application:

1. Unscrew the coupling ring and remove the cap from TEROSON® EP 1401 Structural Foam cartridge. Before attaching the static mixer to the cartridge, squeeze out a small amount of material until both adhesive components run equally. This is necessary to achieve a good mix of the two components.
2. Attach the static mixer and tighten the threads. Insert the cartridge into the application dispenser. Only use dispensers that are equipped with a piston rod. (LOCTITE® HD14 Handheld Pneumatic Dual Cartridge Dispenser or LOCTITE® HD14 Handheld Manual Dual Cartridge Dispenser).
3. When mixed, TEROSON® EP 1401 Structural Foam is grey in color. Discard first 10cm (~4 inches) of adhesive.
4. Apply TEROSON® EP 1401 Structural Foam. TEROSON® EP 1401 Structural Foam can be used on steel and aluminum parts.
5. It may be necessary to change the static mixer if no material has been passed through it in over 30 minutes.

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Curing:

1. TEROSON® EP 1401 Structural Foam requires additional exterior heat for expanding. Heating >70°C is essential for volume expansion.
2. The more TEROSON® EP 1401 is applied, the higher the heat reaction. For accelerated curing it is recommended to use a heat source (convection oven, infra- red or similar).

Cleaning:

1. It is important to clean up excess adhesive from the work area and application equipment before it hardens.
2. Remove excess adhesive immediately with spatula or cloth and TEROSON® VR 10. Cured adhesive can only be removed mechanically.

Painting:

1. TEROSON® EP 1401 Structural Foam can be painted when it is fully cured.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 15°C to 35°C (59°F to 77°F).
Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Product Specification
The technical data contained herein are intended as reference only and are not considered specifications for the product.
Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and Certificate
Please contact Henkel representative for related approval or certificate of this product.

Data Ranges
The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
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
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer
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