

Terocore-1401CA-25

Two Component Structural Foam for Increasing Stiffness, Strength, Fatigue and Vibration Behaviour
Pumpable, Curing at Room Temperature

Basis: Epoxy Resin

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Technische Information
Technical Information

Henkel

Teroson

Product Description

Terocore-1401CA-25 is a two component, slightly expanding, high strength, patented structural foam based on epoxy resins with high compression resistance and low density. Terocore-1401CA-25 is free of solvents, PVC and isocyanates. The material cures at room temperature by chemical reaction of component A and B. Heating both components up to 50°C will accelerate the chemical reaction. Dependent on the geometry and amount of material, the degree of foam can vary.

Application Areas

Terocore-1401CA-25 contains hollow microspheres, by which its stiffness, strength and fatigue limit are increased. The material is used e.g. for cavities, metal sheets and structural parts. Terocore-1401CA-25 can be applied from cartridges for prototypes or repair jobs and from drums for line production.

Technical Data

	Terocore-1401-AA-25 Component A	Terocore-1401BC-AA-25 Component B
Colour:	dark grey	white / light grey
Odour:	characteristic	of amines
Density:	approx. 0,84 g/cm ³	approx. 0,56 g/cm ³
Flowmeter at 20°C:	30 s/20 g	26 s/20 g
Nozzle:	4 mm	
Pressure:	2 bar	
Mixing ratio by volume:	2	: 1
	Mixture (Component A + B) Terocore-1401CA-25	
Colour:	grey	
Odour:	no smell after full curing	
Potlife according to Bohlin (oscillating)		
at 20°C:	90 min	
at 30°C:	60 min	
Density (cured):	approx. 0,6 g/cm ³	
Compressive strength:	15–20 MPa	
E-Modulus:	700±50 MPa	
Poisson's ratio:	0,22–0,26	
Volume change:	0–30 % (depending on the curing conditions/volume/geometry)	
Water absorption:	< 0,5 % weight gain	
Test conditions:	24 hours at 98 % humidity and 40°C	
In service temperature rang	-40°C to 90°C	
Short exposure (up to 1h):	110°C	

Preliminary remark

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 labelling, the relevant precautions should always be observed.

Pretreatment of the substrates

The surfaces for plane application must be dry and free of oil, grease and dust. For cleaning Cleaner-D and Cleaner-FL from Henkel Teroson can be used.

Application from cartridges

Terocore-1401CA-25 is available in cartridges in a mixing ratio of 2:1 (by volume). For application unscrew the upper cap with the attached cap (with the quadratic opening) and screw on the attached mixer to the thread. (Important: use only original mixer, otherwise no exact mixing can be guaranteed!)

When used in cavities and for structural parts the parts to be strengthened are completely or partially filled with Terocore-1401CA-25. (Important: Terocore-1401CA-25 expands approx. 0–30 %!) If necessary a hole with a diameter of 7–14 mm should be drilled, through which the material can be applied. The openings are finally closed with a tape. Functional openings, which still have to be used after filling with Terocore-1401CA-25 have to be kept free by suitable measures prior to inserting the material. Possibly the openings can be laid bare prior to final curing of the foam.

If there is still material in the cartridges after application of the needed amount of Terocore-1401CA-25 remove the mixer, clean the material outlets thoroughly, insert the safety plug and screw on the caps (with the round opening) again. The remaining material can be used later by screwing on a new mixer.

Curing

Terocore-1401CA-25 cures without additional exterior heat only by chemical reaction after mixing component A and B at room temperature. Attention: With larger amounts of Terocore–1401CA–25, this reaction can lead to a strong development of heat. The development of heat and consequently the hardening time, as well as the degree of expansion are determined by the application temperature, the geometry of the body to be filled and the amount of material used. With thin layers on flat surfaces, the development of heat and expansion is minimal. With larger flat surfaces, the material temperature can reach up to 160°C. The increase in volume is then about 30%. It may then be necessary to wear protective gloves when handling or transporting the parts, which have been filled. After about 8 to 24 hours (depending on temperature, application, amount inserted and free surface), the material is set hard.

Cleaning

Fresh, non-cured material should immediately be removed with a dry rag from the substrates or the cartridge and gun tips. Residues of Terocore-1401CA-25 may be removed with suitable solvents (e.g. naphtha). The cured product can only be removed mechanically.

Storage

Frost-sensitive	conditionally, extended storage at low temperatures can lead to crystallisation of component A, though this can be reversed by a short period of warming to 60°C
Recommended storage temp.	15°C to 25°C
Shelf-life	Cartridge 12 months

Packaging

Universal-Cartridge	175 ml
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**Hazard Indications/
Safety Recommendations/
Transport Regulations**

see Safety Data Sheet

Important

The above data, particularly the recommendations for application and use of our products are based on our knowledge and experience. Due to different materials and conditions of application which are beyond our knowledge and control we recommend strongly to carry out sufficient tests in order to ensure that our products are suitable for the intended processes and applications. Except for wilful acts any liability based on such recommendations or any oral advice is hereby expressly excluded.

This Technical Data Sheet supersedes all previous editions.

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