BETAMATE™ 1460N

Structural Adhesives

BETAMATE™ 1460N is a one component, thermally hardening epoxy based adhesive which was specially developed for the body shop. The adhesive is used in the car to increase the operation durability, the crash performance and the body stiffness of the vehicle.

BETAMATE™ 1460N is characterized by a very good storage- and process stability. The adhesion to the types of steel used in the automobile construction, including coated steels and pretreated aluminum, is excellent. It shows a very good compatibility with a wide variety of oils and lubricants. The rigidity and crash stability of the vehicle are significantly increased. The adhesive is suitable for protecting the metal and the weld points from corrosion and can serve as a seal. It is compatible with other thermal mechanical joining processes, e-coat processable and has an outstanding wash-off resistance. BETAMATE™ 1460N is UV detectable; the maximum storage time in the joined and uncured bond under conditions between 18°C – 23°C and 30% - 50% r.h. is 8 weeks.

Product information

Colour	Purple[1]	
Basis	Epoxy resin	
Solid content	≥99	%

[1]: Lilac

Rheological properties

Viscosity, Casson	57[2]	Pa.s
Yield Point, Casson	690[2]	Pa

[2]: Bohlin 45°C

Typical mechanical properties

Tensile Modulus	2500	MPa	ISO 527-1/-2
Stress at break	34	MPa	ISO 527-1/-2
Strain at break	4	%	ISO 527-1/-2
Lap shear strength	≥30	MPa	DIN EN 1465
Peel strength, T-Peel	11[4]	N/mm	ISO 11339
Peel strength, Impact-Peel	33[5]	N/mm	ISO 11343

[3]: DC01; 1.5mm; Adhesive layer thickness 0.2mm; bonded area 25x10mm; after 30min / 180°C curing

[4]: HC180 ZE 75/75; 0.8mm; Adhesive layer thickness 0.2mm; bonded area 25x100mm; after 30min / 180°C curing

[5]: HC180 ZE 75/75; 0.8mm; 2m/s; Adhesive layer thickness 0.2mm; bonded area 20x30mm; after 30min / 180°C curing

Other properties

Density	1.3	g/cm³	ISO 1183

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Storage and stability

Shelf life	360[6] days

[6]: at less than 30°C

Characteristics

Compatibility	Metals

Additional information

Adhesives

Surface Preparation

The material has been designed to tolerate up to 5 g/m2 of surface oil.

Application

All Dupont T&I Adhesives products are primarily developed in co-operation with the automobile manufacturers, according to their needs and their specifications, they are approved for the specific applications as defined by the customer. The use of the product other than approved application must be released in written form by the Technical Service of DuPont T&I Adhesives.

Application Equipment

Cartridges: hand-operated or pneumatic heated gun with mechanical piston
Drums, pails: heated pumping system

Application Parameter

The product can be applied as bead. The ideal material temperature for conveying is >18°C.
It can be processed with the following parameters:

Application speed: up to 300 mm/s
Temperature follower plate: 30-40°C
Temperature follower plate to doser: Per heating zone 5°C heat increase, max temperature at doser 55°C
Temperature nozzle: 55 - 65°C

For an optimum tack of the adhesive, the parts to bond should be stored at 16°C or higher. In case of an application break longer than 30 minutes the heating of the application equipment should be switched off.

Cleaning

Uncured material can be removed with BETACLEAN 3510. Attention: The contact with bonded areas should be avoided!

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