BETAMATE™ 5103-2

Structural Adhesives

BETAMATE™ 5103-2 is a one component, epoxy-based adhesive, especially developed for the body shop. The adhesive is used in the car to increase the operation durability, crash performance and the body stiffness.

BETAMATE™ 5103-2 has excellent adhesion to automotive steels (including coated steels with good tolerance to oil and dry lubes). BETAMATE™ 5103-2 helps to increase the stiffness of the entire car body with high durability of the adhesive and adhesive bond. Due to its sealing capability metal and weld points are well protected against corrosion. It is compatible with other mechanical and thermal joining techniques, compatible with the e-coat process and precurable. Typical applications include bonding of the vehicle body structure and closure hem flange applications.

Product information

Colour	Green[1]	
Basis	Epoxy resin	
Solid content	≥98	%

[1]: light green

Rheological properties

Extrusion Viscosity	73[2]	g/min

[2]: 25°C, Ford nozzle d=3 mm / 3 bar

Cure conditions

Curing time	0.5	h
Cure temperature	180	°C

Typical mechanical properties

Tensile Modulus	6000	MPa	ISO 527-1/-2
Stress at break	51	MPa	ISO 527-1/-2
Strain at break	2	%	ISO 527-1/-2
Lap shear strength	≥22	MPa	DIN EN 1465
Peel strength, T-Peel	2.9[4]	N/mm	ISO 11339

[3]: DC01, 1.5 mm; Adhesive layer thickness 0.2 mm; Bonded area 25x10 mm

[4]: DX56D+Z100 MC, 0.8 mm; Adhesive layer thickness 0.2 mm; Bonded area 25x100 mm

Other properties

Density	1.48	g/cm³	ISO 1183

Storage and stability

Shelf life	3[5]	months

[5]: if storage conditions <30°C

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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 gun with mechanical piston
Drums, pails: standard pumping system

Application Parameter

The product is cold pumpable and can be applied as bead / swirl / stream. It can be processed with the following parameters:

Application speed: up to 500 mm/s
Temperature follower plate: unheated
Temperature follower plate to doser: unheated
Temperature doser - nozzle: 30 - 50°C
Temperature nozzle: 35 - 50°C

For an optimum tack of the adhesive, the parts to bond should be stored at 15°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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DuPont

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