

# BETAMATE™ 1496V

## Structural Adhesives

BETAMATE™ 1496V 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™ 1496V has excellent adhesion to automotive steels (including coated steels and pretreated aluminum with good tolerance to oil and dry lubes).

BETAMATE™ 1496V helps to increase the stiffness and crash stability 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, wash-off resistant, precurable and pregelable. Typical applications include bonding of the vehicle body structure and closure hem flange applications.

### Product information

Colour	Blue
Basis	Epoxy resin
Solid content	≥99 %

### Rheological properties

Viscosity, Casson	300 Pa.s
Yield Point, Casson	100 <sup>[1]</sup> Pa
[1]: 45°C	

### Cure conditions

Curing time	0.5 h
Cure temperature	180 °C

### Typical mechanical properties

Tensile Modulus	1500 MPa	ISO 527-1/-2
Stress at break	35 MPa	ISO 527-1/-2
Strain at break	12 %	ISO 527-1/-2
Lap shear strength	≥33 MPa	DIN EN 1465
Peel strength, T-Peel	7 <sup>[3]</sup> N/mm	ISO 11339
Peel strength, Impact-Peel	45 <sup>[4]</sup> N/mm	ISO 11343

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

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

[4]: DC04, 1.0 mm; 2 m/s; Adhesive layer thickness 0.2 mm; Bonded area 20x30 mm

### Other properties

Density	1.15 g/cm <sup>3</sup>	ISO 1183
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### Storage and stability

Shelf life

3<sup>[5]</sup> months

[5]: if storage conditions <30°C

### Characteristics

Compatibility

Metals

### Additional information

Adhesives

#### Surface Preparation

The material has been designed to tolerate up to 5 g/m<sup>2</sup> 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 is pumpable at temperatures >35°C and can be applied as bead. It can be processed with the following parameters:

Application speed: up to 300 mm/s

Temperature follower plate: 35 - 40°C

Temperature follower plate to doser: per heating zone 5°C heat increase, maximum 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 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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