



# BETAMATE™ 1640US

## Structural Adhesives

BETAMATE™ 1640US is a one component, highly toughened epoxy based adhesive, especially developed for the body shop. The adhesive is used in the car to increase performance and body stiffness

### Features and Benefits

BETAMATE™ 1640US as excellent adhesion to a variety of substrates with good tolerance to oily and dry lubes. The product helps increase the stiffness and the crash durability of the entire car body with high durability of the adhesive bond and corrosion protection. It is compatible with other mechanical and thermal joining techniques, compatible with the e-coat process and is wash resistant. It is typically used in all areas of the vehicle body structure.

### Product information

Colour	Purple	
Density	1.24 g/cm <sup>3</sup>	ISO 845

### Rheological properties

Viscosity, Casson	≥80 Pa.s
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### Typical mechanical properties

Tensile Modulus	1800 MPa	ASTM D 638
Stress at break	32 MPa	ISO 1798
Strain at break	9 %	ISO 1798
Lap shear strength	≥32 <sup>[1]</sup> MPa	DIN EN 1465
Peel strength, T-Peel	11 <sup>[2]</sup> N/mm	ISO 11339
Peel strength, Impact-Peel	38 <sup>[3]</sup> N/mm	ISO 11343

[1]: Tested on 1.6mm CRS

[2]: Tested on 2.0mm Aluminum

[3]: tested on 0.7mm CRS

### Additional information

Adhesives

#### Surface Prep

The material is designed for use in the body shop area conditions where it is designed to tolerate typical oily substrates found in the body shop.

#### Application

All Dupont adhesives products are primarily developed in cooperation with the automobile manufacturers, according to their needs and 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 department of DuPont Adhesives.

#### Application Equipment

Cartridges: hand-operated or pneumatic heated gun with mechanical piston  
Drums/Pails: Pumping system with zoned heat capability



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### Application Parameter

The product is warm pumpable, can be applied as bead / swirl / jet spray. The ideal material temperature for conveying is >18°C.

It can be processed with the following parameters:

Application speed: up to 500 mm/s

Temperature follower plate: heated; max. 35-40°C

Temperature follower plate to doser: Per heating zone 5°C heat increase, max temperature at doser 55°C

Temperature nozzle: 45 - 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.

### Curing Condition

Standard curing profile is 180°C for 20 minutes. However the product will cure under typical body shop paint ovens and a full cure profile is available upon request

### Cleaning

Uncured material can be removed with BETACLEAN 3510. In house solvents can be evaluated upon request

### Delivery Form

Product is available in Drums, Pails or Cartridges

### Storage Stability

Shelf life dependent upon storage temperatures of the material. Optimal storage conditions are six months at less than 25°C. For complete storage stability capabilities, please refer to Customer Test Report.



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