



# BETAMATE™ 1776LWR

## Structural Adhesives

Betamate 1776LWR is a one component , heat curing, expandable adhesive especially developed for the body shop. It is capable of bonding oily galvanized steels and aluminum without a primer. The product exhibits excellent energy management features and increased body stiffness.

### Benefits and Features

1776LWR can be used in areas where there are either gaps between automotive substrates or where better sealing is needed. The product is designed to expand 150% of its original uncured volume. The product is based on highly toughened epoxy chemistry. The expansion characteristics are useful for filling gaps to create high strength composite type structure for superior stiffness in the vehicle and increased energy management during crash events. It can also be used in areas where the expandable nature of the adhesive can solve issues such as poor or incomplete bonding due to springback of the metal and poor tolerance control. The adhesive can be robotically applied, which allows for tailored bead dimensions and provides a cost advantage over manually applied parts and tapes. Furthermore, this application flexibility ensures a complete fill every time and eliminates poor adhesion that often occurs with manually applied products that rely on expansion during cure for complete contact.

### Product information

Colour	Red	
Density	1.23 g/cm <sup>3</sup>	ISO 845

### Typical mechanical properties

Tensile Modulus	700 MPa	ASTM D 638
Tensile Strength	11.6 MPa	ASTM D 412
Elongation at break	3 %	ASTM D 412
Lap shear strength	13 MPa	DIN EN 1465
Peel strength, T-Peel	3 N/mm	ISO 11339

[1]: 1.5mm CRS substrate .25mm bondline

### Characteristics

Compatibility	Metals
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### Additional information

Adhesives

## Surface Prep



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The material is designed for use in the body shop area conditions where it is designed to tolerate typical oily substrates up to 5g/m<sup>2</sup> of surface oil

### 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

### Application Parameters

The product is cold/warm pumpable and 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: unheated possible; >18°C

Temperature follower plate to doser: Per heating zone 5°C heat increase, temperature at doser 40-55°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 Cure is 30 min MT @ 180°C

### Cleaning

In house solvents evaluated upon request

### Delivery Form

Product is available in Drums, Pails or Cartridges



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### Storability

Shelf life dependent upon storage temperatures of the material. Optimal storage conditions are three months at less than 25°C.

### DuPont

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