

# BETAFORCE™ 2850M

## Composite Bonding Adhesive

2-component polyurethane adhesive with medium modulus and medium working time at room temperature, suitable for structural bonding.

- Good adhesion to plastics, composites and painted surfaces
- Good adhesion to e-coat metal surfaces
- Accelerated curing at elevated temperatures
- High mechanical strength and elongation at break
- Low temperature dependency of the modulus
- Glass transition temperature outside the application range

All DuPont Automotive products are primarily developed in cooperation with the automobile manufacturers, according to their needs and their specifications. They are approved for the specific applications as defined by the customer. The uses of the product other than approved application have to be released in written form by the Technical Service of DuPont.

Unless specified otherwise test are conducted at 23°C/50% relative humidity.

### Component A

Colour	Black
Density	1.19 - 1.15 g/cm <sup>3</sup>
Extrusion Viscosity, Component A	20 - 35 <sup>[1]</sup> g/min
[1]: 2mm, 4bar	

### Component B

Colour	White
Density	1.4 - 1.46 g/cm <sup>3</sup>
Extrusion Viscosity, Component B	25 - 40 <sup>[1]</sup> g/min
[1]: 2mm, 4bar	

### Product information

Basis	Polyol and isocyanate
-------	-----------------------

### Application technique

Processing temperature	18 <sup>[2]</sup> - 28 °C
Tack free time	10 - 15 <sup>[3]</sup> min

[2]: temperature has very high influence on reactivity/opentime of the adhesive

[3]: Tested at 23°C on an approx. 30 - 50 cm length adhesive beads; 10 mm wide approx. 0.5 g/mm.

# BETAFORCE™ 2850M

## Composite Bonding Adhesive

### Cured properties

Temperature stability -40 - 90 °C

### Typical mechanical properties

Tensile Modulus	21 MPa	ISO 527-1/-2
Stress at break	10 MPa	ISO 527-1/-2
Strain at break	150 %	ISO 527-1/-2
Lap shear strength, 7 days	≥9 MPa	DIN EN 1465

[4]: Bonding height: 2 mm; Bonding area: 15x25mm; e-coated steel 1.3 mm.

### Storage and stability

Shelf life 180<sup>[5]</sup> days

[5]: Storage conditions at +5°C to + 25°C cold and dry

### Additional information

Adhesives

#### Application

Mixing Ratio (by Volume A:B)

1:1 ± 0.10

It should be noted that temperature has high influence on reactivity/working time of the adhesive; assembly time must be separately evaluated depending on processing and Conditions.

#### Application Equipment

a) 2 x 290ml cartridges: Manuel application with static mixers using our pneumatic BETAPOWER™ application gun or with dynamic mixers using our electrical BETAGUN™ application gun.

b) Pails and drums: Application with a 2-component dosing system either with static mixing head or with dynamic mixing head.

Upon request our application specialists can give support to select the right application system for your application.

#### Bonding surface Preparation

All bonding surfaces must be free of dirt, dust, oil and grease. For the cleaning of paint, metal surface and plastics (including composites) we recommend BETACLEAN™ 3350 or and BETACLEAN™ 3900. Depending on the substrate, a pretreatment with an activator or primer might be necessary.

For the selection of the appropriate activators or primers, we recommend that you consult our Technical Service.



# BETAFORCE™ 2850M

## Composite Bonding Adhesive

### Cleaning

Uncured BETAFORCE™ 2850M can be removed with BETACLEAN™ 3000.  
Cured BETAFORCE™ 2850M can only be removed mechanically. Contaminated equipment can be cleaned with BETACLEAN™ 3000.  
Contaminated equipment can be cleaned with BETACLEAN™ 3000.

### Health and Safety

The use of polyurethane adhesives is generally harmless and as long as the basic rules for safe handling of chemicals are applied. However, the direct contact of uncured adhesive with food and food containers should be avoided. It is mandatory to use protective measures in order to prevent direct skin contact. Suitable gloves and eye protection are essential. Should the skin come into contact with uncured adhesive, it must be rinsed first with warm water and then cleaned thoroughly with conventional soap. Cleaning skin with solvents must be avoided. It is essential to ensure good ventilation. For detailed protective measures refer to the Material Safety Data Sheets.

### DuPont

The information set forth herein is furnished free of charge, is based on technical data that DuPont believes to be reliable, and represents typical values that fall within the normal range of properties. This information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in other processes. It is intended for use by persons having technical skill, at their own discretion and risk. This information should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards and comply with applicable law. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

CAUTION: Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract or other acknowledgement that is consistent with the DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative.

DuPont's sole warranty is that our products will meet our standard sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DUPONT SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR NON-INFRINGEMENT. DUPONT DISCLAIMS LIABILITY FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.