



Dow Automotive

Technical Datasheet

BETAMATE™ 5096

Rubber based Structural Adhesive

Description / Application:

BETAMATE™ 5096 is a one component rubber based adhesive especially developed for the body shop. The adhesive is used in the car to increase the operation durability, the crash performance and the body stiffness.

Properties:

- Good rheology performance for application, wash-off resistance and sagging
- Compatible with other mechanical and thermal joining techniques
- Good adhesion properties to steel, hot dipped galvanized steel and aluminium with various oils
- Good resistance to climatic ageing and corrosion

Application:

The product is at temperatures about 40 up to 50°C applicable as a bead. It can be applied with the following parameters:

application speed	Up to 300 mm/s
temperatures:	recommended:
follower plate	40 - 45°C
follower plate - doser	Maximum temperature at doser 45°C.
nozzle	45 - 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 of.

All Dow Automotive 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 have to be released in written form by the Technical Service of Dow Automotive.

Technical Data:

Basis	Synthetic rubber
Colour	Pink
Density 23°C (DIN 52451)	Approx. 1.5 g/ml
Solid Content	> 99%
Viscosity 50°C (Physica)	
1 s-1	1800 Pas
10 s-1	400 Pas
Curing conditions	Minimum: 20min/165°C Maximum: 60min/220°C Induction curing conditions: 3.8 MPa after 20sec/180°C heat up time 10sec) Oven precuring conditions: 5+10min/140°C (5MPa for 0.2mm thickness)
Shear Strength (DIN 53504) 30min/180°C	16 MPa
Elongation at break (DIN 53504) 30min/180°C	Approx. 12%
Young Modulus at 23°C (40 Hz, h=22mm, dia=3mm)	1700 MPa
Lap Shear Strength (Volvo STD 1029,5466) DX56D+Z100MC Adhesive layer thickness: 0.2 mm Bonded area 12.5x25 mm 30min/180°C	10 MPa, cohesive failure
T-Peel Strength (DIN EN ISO 11339) DX56D+Z100MC Adhesive layer thickness: 0.2 mm Bonded area: 25x100 mm 30min/180°C	3 N/mm
Impact Peel Strength (ISO 11343) DX56D+Z100MC Adhesive layer thickness: 0.2 mm Bonded area: 20x30 mm 30min/180°C	17 N/mm
Bonding Surface Preparation	The material has been designed to tolerate up to 4 g/m ² of surface oil.
Application Tool	Cartridges: hand-operated or pneumatic heated gun with mechanical piston. Drums, pails: heated pumping system.
Cleaning	Uncured material can be removed with BETACLEAN 3350. Not compatible with epoxy materials.
Containers	Drums, pails: 25 kg pails with diameter 280mm, 250 kg drums Cartridges: 0.450 kg
Shelf life	Long time storage: six months at +5 to +35°C in unopened containers

The given data are standard values.

Health and Safety:

▪ Bulk Exothermic Reaction

The material curing reaction is exothermic. If the material is held in bulk the reaction is accompanied by a rapid build-up of exothermic heat. To avoid the risk of this bulk exothermy, containers of the material should in no circumstances be heated by e.g. hot plates or simple drum heaters. If heating a bulk quantity of the material is considered necessary, advice should be sought.

▪ Caution

The adhesive resins are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should also be taken to prevent the uncured materials, from coming into contact with skin, since people with particularly sensitive skins may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleaned at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. For further and more detailed precaution measures see the Health and Safety Data Sheet.

Notice:

Quality is our utmost goal. Dow Automotive works according to a modern quality management system conforming to international standard ISO/TS 16949.

All sites of Dow Automotive are certified according to ISO 14001.

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