

BETASEAL™ X2500 Plus

Structural Adhesive

Description

BETASEAL X2500 Plus is a two component, rapid room temperature curing polyurethane adhesive designed for multi-material substrate bonding applications where differences are expected in the thermal expansion of dissimilar materials.

Benefits

BETASEAL X2500 Plus integrates ideal dissimilar substrate bonding properties like optimized modulus and strength with high elongation. Additional benefits include solvent free, excellent sag resistance, joint sealing and non conductive properties. BETASEAL X2500 Plus can be used in conjunction with Dow's primer portfolio to enable durable adhesion to a wide variety of substrates.

Application Technique

BETASEAL X2500 Plus can be dispensed from bulk containers into meter mix equipment. The proper mix ratio is in turn dispensed manually or robotically through a static or dynamic mixer equipped gun. Seal materials should be fabricated from Viton, Teflon or UHMWPE.

Packaging

BETASEAL™ X2500 Plus is available in 5 gallon pails and 55 gallon metal drums. Two-component cartridges (290 ml tubes) are also available.

Storage and Use Temperature

BETASEAL™ X2500 Plus must be stored in dry containers at temperatures 18-35C (65-95F). Product stored below 60°F (15.5°C) should be warmed to room temperature before using.

Storage Stability

Shelf life is dependent upon storage temperature of the material. Shelf stability is assured for 1 year from date of manufacturing.

Safety Precautions

Refer to the Material Safety Data Sheets.

Cleaning

Uncured BETASEAL™ residues can be removed with BETACLEAN™ 3350 or BETACLEAN 3500. Cured BETASEAL residues can only be removed mechanically.

Bonding Surface Preparation

All surfaces must be free from dirt, dust, grease and oil. Cleaning and priming steps may be needed for uncoated metals and some thermoplastic and thermoset materials.

Uncured Properties	X2500A Plus	X2500B Plus
Composition	Urethane Polymer	Polyol Curative
Color	Black	Black
Solids Content	> 95%	> 95%
Weight per Volume, Lbs/Gal (g/ml) 23°C	10.3-11.0 (1.23 – 1.32)	9.8-10.3 (1.17 – 1.23)
Viscosity, Ballan (4mm, 4 bar, 23°C)	10-30 g/min	10-30 g/min
Viscosity, Brookfield (#5, 20 RPM, 23°C)	~ 500,000 cps	~ 500,000 cps

Processing Considerations	
Mixing Ratio (parts by volume)	1:1 +/- 0.05
Working Time, 23°C	~ 7-14 min
Handling Strength, 23°C, 0.3 Mpa (45 psi)	~ 25 min
Full Cure, 23°C	24 hours

Mechanical Properties	
Lap Shear Strength, 23°C	> 5 MPa, bond thickness 2.0mm
Hardness Shore "A" Durometer (ASTM D2240), 23°C	60-70
Elongation at Break (ASTM D412), 23°C	> 150%
Tensile Strength (ASTM D412), 23°C	> 5 MPa
Young's Modulus, 1-10% strain (ASTM D412) 23°C	> 4 MPa

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