

DuPont BETAMATE™ Lightweight Reinforcement (LWR) Highly-toughened Expandable Structural Adhesives

DuPont BETAMATE LWR is a lightweight expandable reinforcing epoxy adhesive that provides improved crash performance and stiffness. Designed for body-in-white structures, chassis and closures, BETAMATE LWR adds structural continuity between sheet metal components separated by gaps of up to 15 mm.

Robotically applied in the body shop, BETAMATE LWR expands up to 150 percent by volume, filling gaps while adding strength and rigidity. Bead dimensions can be customized for different applications to help vehicles meet testing requirements for IIHS side impact, roof crush and frontal moderate/narrow offset impact.

As part of the BETAMATE structural adhesives portfolio, BETAMATE LWR enables the joining of substrates where design gaps vary or where weld access may be limited. It bonds a variety of metals, as well as substrates with different coefficients of linear thermal expansion.

Additional product characteristics:

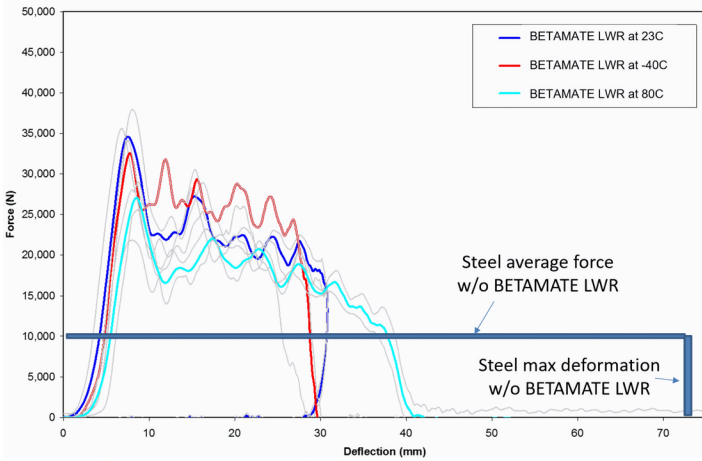
- One-part epoxy adhesive bakes in the body shop and bonds through oily substrates with robust adhesion to aluminum and steel
- Highly toughened adhesive absorbs energy and does not become brittle at cold temperatures
- Expandable material fills gaps and compensates for metal separation and movement during thermal loads
- Can be robotically applied in bulk, enabling faster cycle times while removing added manual labor and piece costs
- Designed to endure wash and e-coat cycles

Available in high, medium and low modulus options

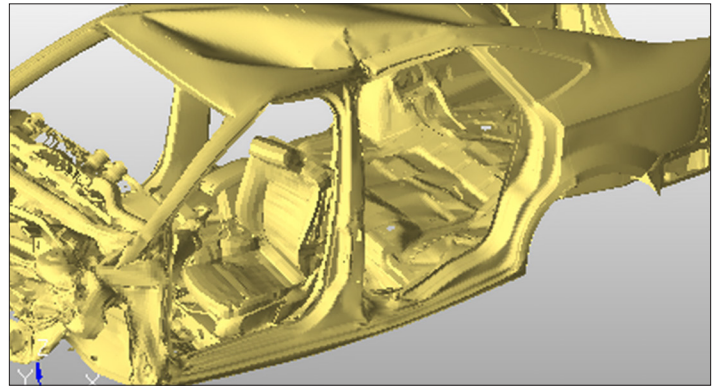
Product	Modulus	Performance Benefits	Typical Applications
BETAMATE LWR High Modulus	350-750 MPa	Stiffness, crashworthiness	Key areas for crash performance in pillar areas, rocker panels, sunroof support rings
BETAMATE LWR Medium Modulus	150-250 MPa	High stiffness, NVH	Front and rear headers, roof perimeter, areas with more contour
BETAMATE LWR Low Modulus	35-150 MPa	NVH, low distortion for Class A surfaces	Liftgate doors, roof pillars, Class A surfaces in need of stiffness and improved NVH response

Highly-toughened DuPont BETAMATE™ LWR Adhesives Enable Sustained Load-carrying Capacity

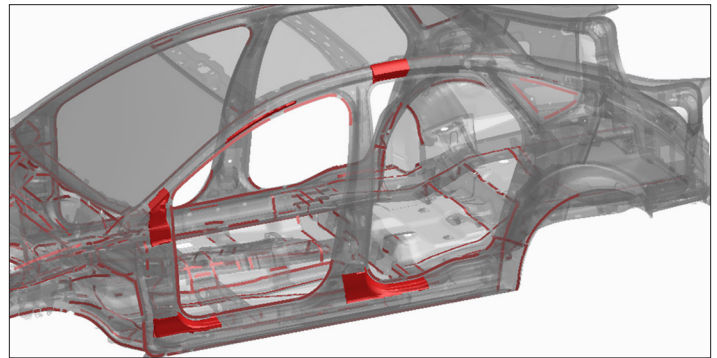
Steel Hat-section Component Testing - 20mph



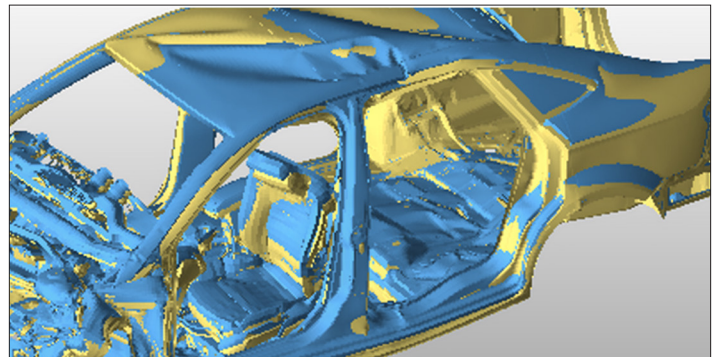
Narrow Offset Impact



Baseline.



Typical application areas for DuPont BETAMATE LWR and BETAMATE toughened structural adhesives.



Areas of the vehicle that benefit from DuPont BETAMATE toughened adhesives as proven in narrow offset impact tests.

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