Solutions from Dow Automotive Systems

BETAFOAM™ Renue Polyurethane Foam

New BETAFOAM™ Renue polyurethane foam from Dow Automotive Systems provides automakers with a sustainable cavity-sealing technology that contributes to improved fuel economy with a ~ 25% reduction in density. It also delivers better acoustical performance than traditional expandable baffles for body-in-white applications.

The complex channels in a body cavity are completely sealed by BETAFOAM Renue injected as a liquid to react and fill the intricate space.

Typical BETAFOAM Renue applications.

Made with 30% renewable-based material, BETAFOAM Renue provides improved acoustical performance of one to five decibels at the driver's ear, and minimizes resonance buildup while sealing vehicle cavities. The lightweight foam creates a potential mass savings of up to 30% versus previous generations of BETAFOAM.

BETAFOAM Renue fills cavity space in a pillar application.

Product and Platform Advantages

BETAFOAM™ Renue:

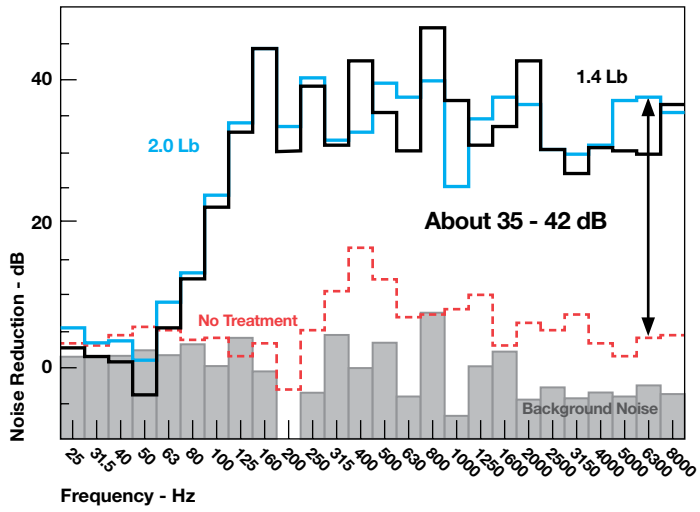
- Demonstrates high-performance body-cavity sealing capable of 4700% expansion
- Provides excellent sound absorption by reducing noise with 3-dimensional sealing
- Meets industry standard for low-MDI emissions thus enhancing worker safety
- Relieves ventilation requirements for ease of use in assembly plant environments
- Provides complete design flexibility by filling any cavity shape and contour
- Resists water absorption

This effective and sustainable NVH solution also offers higher-performance physical properties in addition to renewable content. BETAFOAM™ Renue features the following improvements over traditional BETAFOAM:

- Faster reaction time (measured at end of rise) that maintains production rate or cycle time during transition to the new technology
- A processing window extended by 10 °C (from 150 - 190 °C) for excellent foam quality
- 25% lower density (1.4 vs. 2.0 lb/cUbic foot), with no reduction in acoustic performance

The chart below shows noise reduction as a function of frequency with traditional BETAFOAM and BETAFOAM Renue injected into a typical rocker panel.

As a technology and market leader in the polyurethane (PU) sector, Dow Automotive Systems possesses the capabilities that empower us to offer best-in-class low-emission formulas, renewable content and ease of processability. Technical expertise helps us predict and deliver high-quality solutions.



The blue line indicates noise reduction with traditional BETAFOAM™ (2.0 pcf). The black line shows noise reduction with BETAFOAM Renue (1.4 pcf), and the red dotted line shows noise reduction with no NVH treatment.

ABOUT DOW AUTOMOTIVE SYSTEMS

Dow Automotive Systems, a business unit of The Dow Chemical Company, is a leading global provider of collaborative solutions and advanced materials for automotive and commercial transportation original equipment manufacturers, tier suppliers and aftermarket customers. Our materials focus includes structural, elastic and rubber-to-substrate adhesive solutions; polyurethane foams and acoustical management solutions; innovative composite solutions; and films and fluids, with an emphasis on achieving customer and corporate sustainability goals. Offices and application development centers are located around the world to ensure regionalized technical, engineering and commercial support for customers and industry groups. For additional information, visit dowautomotivesystems.com.

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