

# SPECFLEX<sup>TM</sup> POLYURETHANE SYSTEMS Improving Vehicle Acoustic Performance



SPECFLEX<sup>™</sup> polyurethane systems address a wide range of interior acoustic applications that enhance vehicle sound quality perception.

Part of a growing portfolio of acoustic solutions from Dow Automotive Systems, SPECFLEX<sup>™</sup> polyurethane systems are formulated solutions designed to optimize performance, weight, cost and processing for NVH applications. Viscoelastic and high resiliency foams, as well as spray heavy layer systems, are available.

All SPECFLEX polyurethane systems are water-blown, containing no chlorofluorocarbons or other known ozone-depleting substances. Dow Automotive Systems has also developed several low-emission, low-density foams that offer excellent sound absorption characteristics.

## Polyurethane Solutions to Global Transportation Needs

Dow Automotive Systems delivers a full range of polyurethane, elastomer and NVH products and technologies to the global automotive and commercial transportation markets. Award-winning products and expertise are available in the areas of thermoplastics, thermosets and adhesives.

The complete Dow Automotive Systems portfolio is backed by dedicated experts in the fields of research and development, engineering and program management. Our goal is to provide solutions that help customers address major industry challenges and make vehicles that are lighter, safer, stronger, cleaner and more durable and comfortable.

### **Benefits**

Advanced Dow Automotive Systems technology allows us to use customer acoustic targets to customize foam formulations that meet desired performance levels while balancing weight and processing targets. In addition to the desired absorption, barrier and/or damping qualities, SPECFLEX polyurethane systems offer:

- Low emissions
- Low density
- Excellent acoustic performance
- Fast-curing systems to enable increased productivity
- Unique polyurethane spray heavy-layer technology (>70 percent filler loading) enables superior NVH performance and weight reduction by enabling controlled thickness distribution
- Excellent flow, allowing processing of large, complex shapes

As a technology and market leader in the polyurethane sector, Dow Automotive Systems possesses the capabilities that enable us to offer bestin-class low emission formulas, renewable or "green" content and processability. Technical expertise helps us predict and deliver high-quality solutions.

#### Adding Renewable Content

Many Dow Automotive Systems polyurethane products can be produced with **RENUVA™ Renewable Resource Technology**. This breakthrough technology from Dow creates natural oil-based polyols that enable products with high levels of renewable content and exceptional product performance, all without the odor often associated with other bio-based polyols. RENUVA technology is greenhouse gas neutral and uses up to 60 percent fewer fossil fuel resources than conventional technology.

#### Applications

SPECFLEX polyurethane systems can be used in carpet and dash systems where noise management can enhance the quality and appeal of the vehicle.

#### Sustainable Performance

SPECFLEX polyurethane systems incorporate VORANOL<sup>TM</sup> VORACTIV<sup>TM</sup> polyols, helping minimize VOC emissions while improving interior acoustics. Several additional benefits of VORANOL VORACTIV polymers in SPECFLEX polyurethane systems include:

- Reduced NVH from engine, road and other vehicle sounds
- Reduced amine content in and lower emissions from the foam, which can decrease odors caused by VOCs and provide additional environmental benefits
- Faster cure time
- Better flow characteristics

### About Us

Dow Automotive Systems provides technology- and materials-enabled solutions for interior, exterior, powertrain, vehicle structural enhancement, acoustic management, emissions control and aftermarket applications in the automotive and commercial transportation industries.

We are a global provider of NVH solutions for body-in-white and interior applications. Our material science and characterization expertise, combined with design engineering, process knowledge and program management, allow us to provide OEM and tier customers with solutions that meet or exceed vehicle performance targets at lower weight and cost.

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