
AUTOMOTIVE APPLICATION PROFILE

Air Suspension Piston

We understand that in the automotive industry, you need reliable materials that perform to a higher standard. Ascend offers a comprehensive portfolio of engineered plastics for challenging automotive applications. We work with our customers to achieve the very best from our products. That's why we offer a worldwide support network of application specialists and technical experts. Our material knowledge and expertise in automotive systems can help you improve part performance and reduce material usage and cycle times.

Products Used: R530H, R533H, R540H, R550H

Application Description

The air suspension piston is a critical component that must be strong and stiff enough to support the weight of the heavy-duty truck. Because the rubber air spring is moving across the piston, the material must have good lubricity and wear resistance. The ease of molding is critical in achieving a good surface in a heavy part such as this piston, as it contributes to the wear resistance.

Benefits

- Wear resistance
- Lubricity
- Superior strength
- Easy to mold
- Stiffness

The Vydyne Difference

Ascend's Vydyne R533H is ideal for this application due to its balance of strength and stiffness. It needs additional wear properties to work with the moving air spring. The ease of molding is also critical in a large part such as this. This solution has been approved and proved in production at multiple global OEMs.



Product Properties



R530H, R533H, R540H, R550H						
Property*	Test Method	Units	R530H	R533H	R540H	R550H
Density	ISO 1183	g/cm ³	1.37	1.40	1.46	1.58
Tensile Strength	ISO 527-2	MPa	195	205	220	240
Flexural Modulus	ISO 178	MPa	9,600	10,200	12,300	16,000
Notched Izod	ISO 180	kJ/m ²	11	12	14	17
DTUL @ 1.8 MPa	ISO 75-2/A	°C	250	250	252	255

*Dry as molded (DAM)

Application Development and Support

Our automotive applications team relies on years of industry experience and CAE support for tooling to help you optimize your system design. For more information, contact our expert applications specialists or visit ascendmaterials.com.



Ascend Performance Materials is the world's largest fully integrated producer of nylon 6,6 resin. We manufacture and reliably supply world-class plastics, fibers and chemicals that are used in thousands of everyday applications such as car parts, electronics and cable ties.

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