
AUTOMOTIVE APPLICATION PROFILE

Transmission Cover

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: R433H, R435H, R533H, R535H

Application Description

Transmission covers face high temperatures and constant contact with transmission oil. In this harsh environment, the transmission cover needs to seal reliably to prevent oil leakage and water and dirt intrusion, while also providing openings for a fluid level dipstick and the transmission electrical control harness.

The Vydyne Difference

Ascend's Vydyne PA66 is ideal for transmission cover applications because of its superior temperature and chemical resistance. High modulus ductile, glass-filled Vydyne R433H and R435H grades protect from road debris impact. Plus, Vydyne's best-in-class flow allows you to design parts with thinner walls, thereby reducing material cost, cycle time and part weight. Our simulation

experts use state-of-the art FEA and flow analysis to help you design a part right, the first time.

Benefits

- Strength
- Chemical resistance
- Superior mold flow
- Temperature resistance
- Stiffness
- Impact strength



Product Properties

R433H, R435H, R533H, R535H						
Property*	Test Method	Units	R433H	R435H	R533	R535H
Density	ISO 1183	g/cm ³	1.35	1.39	1.40	1.41
Tensile Strength	ISO 527-2	MPa	148	173	205	210
Tensile Modulus	ISO 527-2	MPa	9,500	11,300	10,600	11,600
Charpy Notched Impact @ 23°C	ISO 179/1eA	kJ/m ²	23	18	11	12
Charpy Notched Impact @ -30°C**		kJ/m ²	16***	14***	10	11
Charpy Unnotched Impact @ 23°C	ISO 179/1eU	kJ/m ²	92	93	80	80
Charpy Unnotched Impact @ -30°C**		kJ/m ²	99***	95***	70	70
DTUL @ 1.8 MPa	ISO 75-2/A	°C	245	248	250	250

*Dry as molded (DAM) **Except as otherwise noted ***Tested at -40°C

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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