

---

## 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, 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 protects 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

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

\*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](http://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.

### North America

1010 Travis Street  
Suite 900  
Houston, TX 77002  
United States

+1 713 315 5700

### Europe

Watson & Crick Hill Park  
Rue Granbonpré 11 – Bâtiment H  
B-1435 Mont-Saint-Guibert  
Belgium

+32 10 608 600

### Asia

Unit 3602,  
Raffles City Office Towers  
268 Xi Zang Road (M)  
Shanghai 200001  
China

+86 21 2315 0888

© 2019 Ascend Performance Materials Operations. The Ascend Performance Materials and Vydine marks and logos are trademarks or registered trademarks of Ascend Performance Materials Operations.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Ascend Performance Materials Operations makes no representations or warranties as to the completeness or accuracy thereof. The full disclaimer of warranty and liability can be found at [ascendmaterials.com/disclaimer](http://ascendmaterials.com/disclaimer). Rev. 4/2019 AAP038



inspiring everyday