

Challenge reality

Energy lives here™

Rethink what's possible in automotive performance, packaging design, hygiene comfort and appliance appeal.



Achieve™ Advanced polypropylene (PP) offers a significant step beyond traditional PP performance. Brand owners and manufacturers can challenge reality and rethink what's possible in their applications.

- Extraordinarily tough automotive parts
- Remarkably rigid containers, cups and tubs
- Tremendously comfortable nonwovens
- Amazingly eye-catching appliances

This new high performance PP product family represents our latest advancements in proprietary catalyst, process and application technology. The performance of Achieve Advanced PP combined with value chain collaboration enables customers to unlock new business opportunities.

Achieve Advanced PP eliminates trade-offs in performance, processing and end-of-life handling that are associated with conventional polymers. As well as upgrading standard PP, it is perfect for replacing other materials, including over-engineered ABS.

Extraordinarily tough automotive parts

With higher impact than standard impact copolymers (ICP), Achieve™ Advanced PP enables tougher, lighter vehicle components that are durable and safe.

Achieve Advanced PP enables customers to create new **interior and exterior vehicle parts** with improved performance – that do more with less. With **multi-region supply** of consistent quality materials, it can be used neat or in compounds to meet specifications globally.

- Step-out toughness/stiffness balance
- Opportunity to lightweight
- 35% higher impact
- Up to 50% less plastomer use



Remarkably rigid containers, cups and tubs

Offering high melt strength, Achieve Advanced PP enables the economic production of thinner **containers, cups and tubs** that are easier to thermoform.

The high stiffness provides downgauging opportunities while excellent processing can improve cycle times and offer higher output. High stiffness and increased filler loading contribute to packaging solutions that do more with less.

- High melt strength
- 15% downgauging
- 7% faster cycle time
- Reusable and widely recyclable



Tremendously comfortable nonwovens

Delivering outstanding barrier properties and high fabric strength, Achieve™ Advanced PP enables the consistent manufacture of leak-proof and strong nonwovens.

The strength/softness balance of nonwovens can be tailored to meet customer needs by blending Achieve Advanced PP grades, making them ideal for **hygiene products** like diapers, wipes, adult incontinence and feminine care products.

- Up to 15% higher fabric strength
- Outstanding barrier properties
- Clean and consistent processing



Amazingly eye-catching appliances

With superior gloss and stiffness compared to standard ICP, Achieve Advanced PP allows brand owners to economically produce **appearance parts for appliances**.

Achieve Advanced PP is perfect for upgrading existing PP solutions or replacing over-engineered acrylonitrile butadiene styrene (ABS).

- Replacing standard ICP
 - 20% higher gloss
 - 10% improved stiffness
- Replacing ABS
 - 20% cost savings¹
 - 14% lower density for lighter weight parts



1. Economic cost calculation is based on the ICIS average ABS price in North East Asia in February 2018. Using a 0.8kg ABS part as an example, savings include the unit price difference between ABS and Achieve Advanced PP7123KNE1, as well as density benefits. Actual total savings are based on the weight of a customer's replacement part and other associated costs.

Application recommendations & product gradeslate

The Achieve™ Advanced PP portfolio offers a range of grades that provide elevated performance and advanced processing benefits for your applications. Collaboration across the value chain allows brand owners and manufacturers to unlock new opportunities that economically enhance their businesses.

Automotive - interior and exterior vehicle parts

Grade	MFR (230°C/2.16 kg) g/10 min	Tensile stress at yield MPa	Flexural modulus 1% secant (2.0 mm/min) – MPa	Flexural modulus 1% secant (0.051 in/min) – psi	Notched Izod impact (23°C) – J/m	Notched Izod impact (23°C) kJ/m²	Notched Izod impact (-20°C) kJ/m²	Heat distortion temperature (0.45 MPa) °C
Achieve Advanced PP8285E1	30	19.9	1020	144000	No break	46	6.8	82.8
	ASTM D1238	ISO 527-2	ISO 178	ASTM D790A	ASTM D256A	ISO 180/1A	ISO 180/1A	ISO 75-2/B

Rigid packaging - containers, cups and tubs

Grade	MFR (230°C/2.16 kg) – g/10 min	Flexural modulus 1% secant (MPa / psi)	Notched Izod impact (23°C) (J/m ft-lb/in)	HDT at 66 psi unannealed (°C/°F)
Achieve Advanced PP6282NE1	1.8	2020 / 293000	44 / 0.83	116 / 241
	ASTM D1238	ASTM D790A	ASTM D256	ASTM D648

Hygiene - nonwoven fabrics

Grades	Conversion process	MFR*	Attributes
Achieve Advanced PP3854	Spunbond	24 MFR	Outstanding uniformity for high-strength and fine denier.
Achieve Advanced PP6035G1	Meltblown	500 MFR	Enhanced strength with broad processing window.
Achieve Advanced PP6936G2	Meltblown	1550 MFR	Superior barrier and softness.

* MFR 230°C/2.16kg test methods based on ASTM D1238.

Appliance - appearance parts

Grade	MFR (230°C/2.16 kg) g/10 min	Tensile stress at yield MPa	Flexural modulus 1% secant (2.0 mm/min) – MPa	Flexural modulus 1% secant (0.051 in/min) – psi	Notched Izod impact (23°C) – J/m	Notched Izod impact (23°C) – kJ/m²	Heat distortion temperature (0.45 MPa) – °C	Gardner gloss (60°)
Achieve Advanced PP7123KNE1	11	30.8	1680	228000	85	6.9	102	89
	ASTM D1238	ISO 527-2	ISO 178	ASTM D790A	ASTM D256A	ISO 180/1A	ISO 75-2/Bf	ASTM D523

Values given are typical and should not be interpreted as specifications. Data generated by or on behalf of ExxonMobil Chemical.
Test methods are based on the ASTM and/or ISO standards.

Use Achieve™ Advanced PP to challenge reality and rethink what's possible.

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