



Exceed™ Tough PP

## Exceed™ Tough PP helps Kingfa develop high-performance, lightweight materials to meet value chain demands



**Up to 50% less plastomer use**  
Reduced external plastomer loading can simplify formulations and provide significant cost-saving opportunities



**Up to 20% improved toughness**  
Step-out toughness and stiffness balance (low temperature ductility) compared to standard ICP



**Up to 35% higher impact**  
Significantly higher impact compared to standard impact copolymers (ICP)



**Lightweighting opportunities**  
Improve efficiency in conventional cars and new energy vehicles (NEVs)

### Challenge

The rise of alternative powertrains and increased interest in lightweight, sustainable automotive materials are driving demand for innovative new products. The Chinese automotive industry, in particular, faces intense domestic and international competition to cost-effectively develop differentiated solutions to meet current and future demand. To stay relevant and competitive in a rapidly evolving industry, Kingfa, a China-based automotive materials solutions provider, needed to:

- Develop strategic partnerships to expand its global footprint
- Bridge suppliers and customers to meet value chain demands efficiently and effectively
- Identify and provide game-changing solutions, not just products, in advance of demand

### Solution

Innovation is central to Kingfa's identity. The company has been a longtime collaborator with ExxonMobil, which is committed to pushing the boundaries of polypropylene technology by collaborating with customers to innovate and find success along the value chain. Since 2016, the two companies have collaborated through strategic brainstorming sessions and trials.

This collaboration, as well as a collective demand from the automotive industry, enabled ExxonMobil to develop Exceed™ Tough PP8285E1, a high-flow, high-impact copolymer resin designed for automotive applications. This grade of Exceed Tough PP also eliminates trade-offs in performance, processing and end-of-life handling compared to traditional polypropylene and unlocks new opportunities for automotive customers.

## Results

Using Exceed™ Tough PP8285E1, Kingfa created a proprietary formulation that provides a complete solution sought by the automotive value chain, featuring high impact strength, high Melt Flow Rate (MFR) and better odor performance.

The improved toughness of Exceed Tough PP8285E1 helped Kingfa minimize plastomer loading levels to simplify its formulations. It also enabled Kingfa's customers to produce a variety of tough auto parts – including instrument panels, door panels, consoles and bumper fascias – more efficiently and economically.



## Exceed™ Tough PP enables lightweight, high-performance interior and exterior vehicle components that are durable, strong and safe.

By using Exceed Tough PP8285E1, Kingfa attained impact resistance of:

**46 kJ/m<sup>2</sup>**

compared to 10 kJ/m<sup>2</sup> of a standard ICP at the same MFR of 30 g/10 min

“ExxonMobil is a very important supplier for us. We collaborate closely with each other. Our ideas and their ideas collide and create even better solutions.”

- Wang Dazhong, CEO assistant, Kingfa

## How Exceed Tough PP helps you win in the automotive market



### Compounders

- Up to 35% higher impact
- Up to 20% improved toughness
- Up to 50% less plastomer use



### OEMs

- Lightweight
- Create new vehicle designs
- Meet global specifications

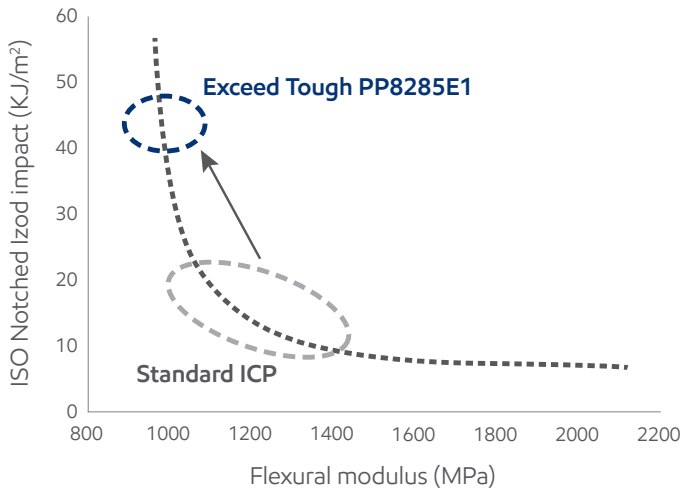


### Consumers

- Improved efficiency

## Balanced cost/performance

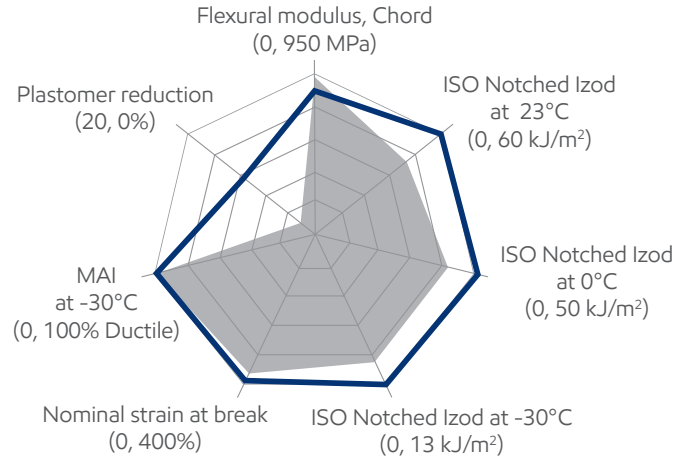
Compared to standard ICP, Exceed™ Tough PP demonstrates an improved balance of compound value and performance.



Selected property data for Exceed Tough PP8285E1 compared to a standard ICP reference.

## All-around performance

Compared to a reference thermoplastics polyolefins (TPO) compound, Exceed Tough PP8285E1-based compound demonstrates superior capabilities in a range of performance areas.



- Exceed Tough PP8285E1-based compound (includes 10% plastomer)
- Reference TPO compound (includes 20% plastomer)

Selected property data for compounds with Exceed Tough PP8285E1-based compound and the standard ICP reference. Plastomer loading reduced from 20% in the reference TPO compound to 10% in the Exceed Tough PP8285E1-based compound.

## What's new: ExxonMobil Signature Polymers

All our polymers are now positioned under a single portfolio brand: Signature Polymers. The aim is to simplify our product architecture and naming to improve portfolio navigation for you. We would like to stress that our commitment to high quality products remains the same, it is the names that change. Everything else remains the same. We will be making these modifications over the next six months so you will see both old and new grade names highlighted during that time. Here's a quick overview of brands and grade names that have changed in this document:

### Legacy Commercial Name

Achieve™ Advanced PP8285E1

### New Commercial Name

Exceed™ Tough PP8285E1

Want to see what's changed in our portfolio? Go to [exxonmobilchemical.com/sptransform](https://exxonmobilchemical.com/sptransform)

Contact us for more information: [exxonmobilchemical.com/pp](https://exxonmobilchemical.com/pp)

**ExxonMobil**  
*Signature Polymers*

Bring your impossible



© 2024 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Chemical" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded. P0520-409E96