



Exceed™ high performance PP

## ExxonMobil's high performance PP empowers thin-wall injection molding (TWIM) and boosts performance in food container solutions



High flowability



Excellent low-temperature impact resistance



Improved cycle time with better processability

Data and results presented herein apply specifically to the noted application under this factsheet. Your results may differ depending on factors such as operating conditions, equipment and materials used.

In recent years, thin-wall packaging has gained increasing favor among food packaging manufacturers due to its benefits such as lightweight design, ease of transportation and freshness preservation. In the meantime, manufacturers are placing higher demands on the performance and production efficiency of thin-wall packaging to stay competitive in a fierce market environment.

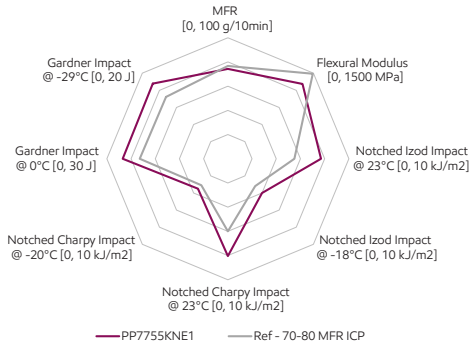
Exceed™ PP7755KNE1 is designed to meet the requirements of thin-wall packaging with excellent impact performance, especially for applications requiring low temperature impact performance including ice cream containers, yogurt containers and takeaway containers, etc.

Exceed™ PP7755KNE1 properties	Test based on	Typical value
Melt flow rate (230°C/2.16 kg)	ASTM D1238	75 g/10 min
Tensile stress at yield (50 mm/min)	ISO 527	23.6 MPa
Flexural modulus (2 mm/min)	ISO 178	1310 MPa
Notched Izod impact strength @ 23°C	ISO 180/A	7.7 kJ/m <sup>2</sup>
Notched Izod impact strength @ -18°C	ISO 180/A	4.0 kJ/m <sup>2</sup>
Notched Charpy impact strength @ 23°C	ISO 179/1eA	8.0 kJ/m <sup>2</sup>
Notched Charpy impact strength @ -18°C	ISO 179/1eA	3.5 kJ/m <sup>2</sup>
Gardner impact @ -29°C	ASTM D5420	17.5 J

## Performance of Exceed™ PP7755KNE1 against market reference 70-80 MFR impact copolymer (ICP)

Exceed PP7755KNE1 has a melt flow rate (MFR) of 75g/10min. In a comparison test with market reference ICP of similar MFR ranging in 70-80, Exceed PP7755KNE1 shows better impact performance in both room temperature (23°C) and low temperature ranging from -18°C to -29°C. It well demonstrates that Exceed PP7755KNE1 is an ideal solution for the applications that require low temperature, such as ice cream boxes.

Chart 1: Mechanical properties

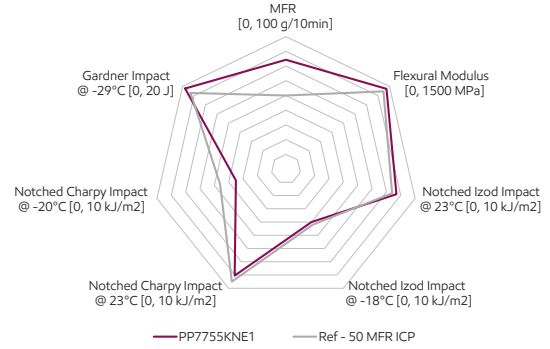


## Performance of Exceed PP7755KNE1 against market reference 50 MFR ICP

Charts 2 and 3 showcase that Exceed PP7755KNE1 has significantly higher flowability with comparable stiffness-impact properties; expect better processability for TWIM applications.

Due to its high flowability, Exceed PP7755KNE1 can also achieve ~20% cycle time reduction compared with market reference 50 MFR ICP.

Chart 2: Mechanical properties



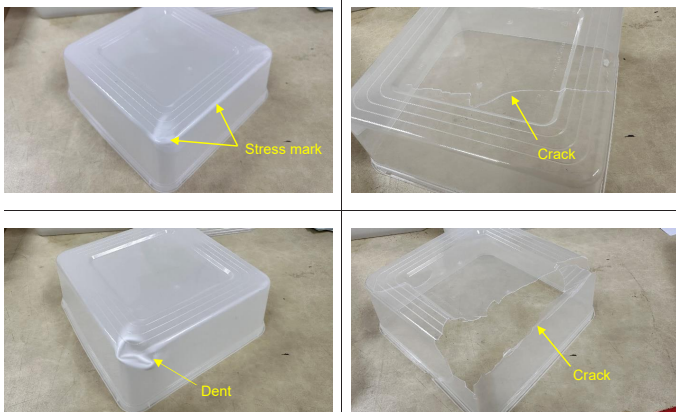
## Performance of Exceed PP7755KNE1 against market reference 70-80 MFR homo PP

Drop test result shows Exceed PP7755KNE1 can significantly achieve improved low temperature impact performance.

No crack appearance after cold storage (0°C) as shown from drop test result as well.

### 2 meters drop test result (0.8 kg load)

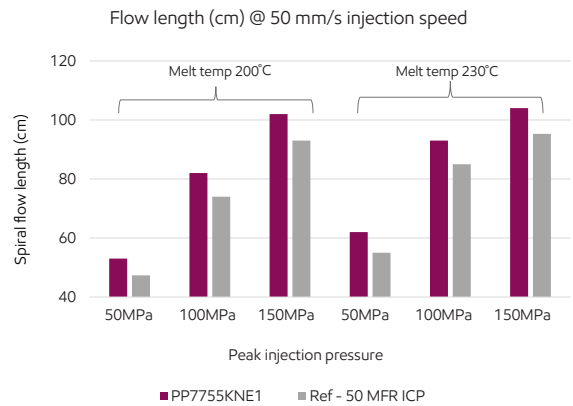
Appearance of containers after cold storage at 0°C for 24 hours



Left: With Exceed PP7755KNE1

Right: With 70-80MFR hPP

Chart 3: Flowability



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Signature Polymers

Bring your impossible

ExxonMobil Signature Polymers was born from the belief that people fuel progress. From automotive and construction to packaging, agriculture, industrial, and beyond, we leverage the scale and reach of ExxonMobil to deliver the insights and innovations that empower our diverse, global partners to take their businesses to new heights. We continuously work to provide the listen-first, service-driven, game-changing collaboration that unlocks opportunities for our partners and advances and business goals.



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