

Product

Polypropylene

The Solution for closures in contact with flavour transfer sensitive liquids

Designed for the manufacture of bottle caps in direct contact with liquids, PPR 7227 stands out by the excellent surface finish of the end-product. A random copolymer with high transparency and medium fluidity (10 g/10min index), it is particularly suitable for the production of articles with integrated hinge, even of an intricate design.

Polypropylene closures

For many years, polypropylene has been used extensively for the manufacture of a huge variety of

closures, as it combines a unique array of yet unrivalled properties:

- low density and high rigidity (weight and cost savings);
- ideal for the manufacture of hinged caps;
- outstanding chemical stability;
- creep resistance;
- impact resistance;
- excellent contact transparency.

Although particularly suitable for the manufacture of caps for carbonated drinks, chemicals, cosmetics and many other products, polypropylene never came in direct contact with liquids sensitive to flavour transfer because there were no grades to accommodate this specificity.

To fulfil the stringent organoleptic requirements laid down by the major carbonated drinks producers, TOTAL PETROCHEMICALS's R&D teams have now developed a new grade: PPR 7227.



Tomorrow, all-PP bottles thanks to PPR 7225

PP bottles as clear as glass? This is far from being a purely theoretical view. TOTAL PETROCHEMICALS has now demonstrated this by applying the Injection Stretch Blow Moulding (ISBM) process to polypropylene. Already used to manufacture PET bottles, the ISBM technology now extends to PP, with the same production speed and equipment thanks to PPR 7225, a new grade specially adapted to ISBM production lines. And crowning these bottles sits a top made from PPR 7227 to complete this mono-material concept particularly suited to plastic bottle recycling operations. And even more so when you bear in mind that the label too is available in PP.



A comprehensive polypropylene range for closures

Closures have for many years represented a very major market segment for TOTAL PETROCHEMICALS. The (non-exhaustive) table below sets out the various grades in the range. If you have specific requirements in terms of bottle closure, do contact us or visit our website www.totalpetrochemicals.com. All technical datasheets detailing the characteristics of our grades are available on line.

Anxious to obtain a product that would be perfectly suited to the requirements of manufacturers, our laboratories have conducted extensive studies covering every aspect of production, from the additives used to storage procedures.

During these studies, our research teams conducted blind tests, comparing taste intensity between various polymers in contact with water (fig. 1). Performed in accordance with a highly rigorous scientific protocol, the tests were entrusted to experts in retro-olfactive evaluation.

Their result: the flavour intensity with PPR 7227 is among the lowest values measured, at around the same level as PET « water grades ».

Grade	Main properties	
	Melt flow index (g/10 min)	Other characteristics
Homopolymers		
PPH 5060	6	
PPH 7060	12	
PPH 7062	12	antistatic
PPH 9082	25	antistatic
PPH 10012	42	nucleate and antistatic
PPH 11012	55	nucleate and antistatic
Random copolymers		
PPR 7220	10	transparent
PPR 7227	10	transparent and organoleptic
PPR 9220	20	transparent
PPR 10222	40	transparent and antistatic
Impact copolymers		
PPC 5660	7	
PPC 7652	16	nucleate and antistatic
PPC 11712	55	nucleate and antistatic

Fig. 1: Blind tests, comparing taste intensity between various polymers in contact with water.

Grade	Intensity of flavour
PPR 7227	2.6
PET (water grade)	2.4
PE (water grade)	4.4
Maximum intensity recorded	6.5

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