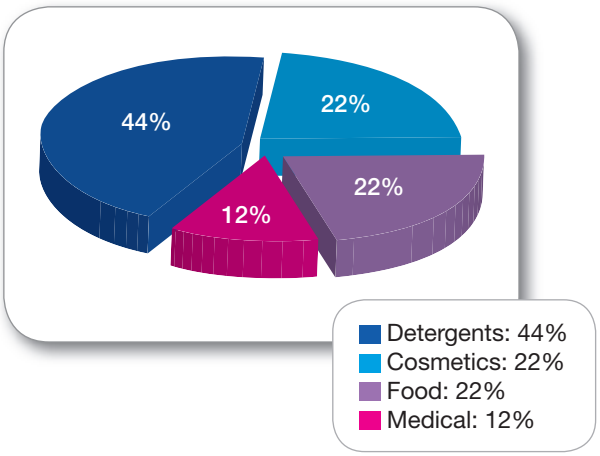
Polypropylene

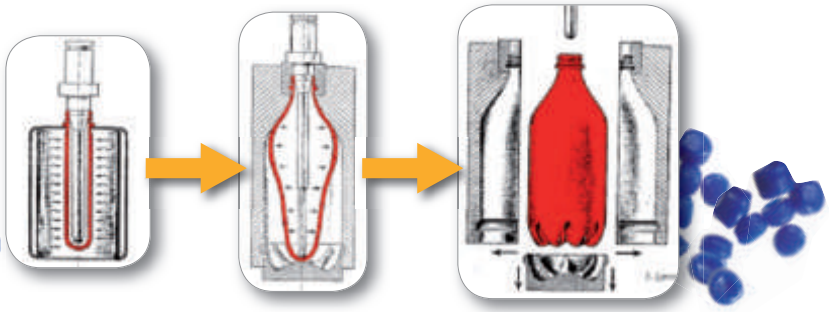
for extrusion blow moulding (EBM) and injection stretch blow moulding (ISBM)

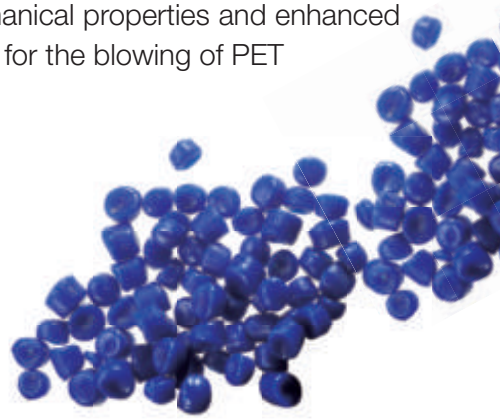
Polypropylene is an active challenger to HDPE and PET. Its low density, high transparency and high gloss, sidewall strength at high temperature and greater freedom from environmental stress cracking make polypropylene the material of choice for hollow packaging. Polypropylene is mainly used in cosmetics, detergents, food and medical bottles and containers.



Bottles and containers in polypropylene can be produced by the following process:

- Extrusion Blow Molding where an extruded molten parison is transferred to a mold for inflation
- Injection Blow Molding replaces the extruded parison with an injection molded preform. Blowing takes place in a second mold which maintains the high definition neck of the preform. It is particularly suited for wide mouth containers
- Injection Stretch Blow Molding is a further refinement which introduces a plunger stretching stage to elongate a conditioned preform just before the final blow. It gives better mechanical properties and enhanced transparency of the polypropylene. This process was originally developed for the blowing of PET





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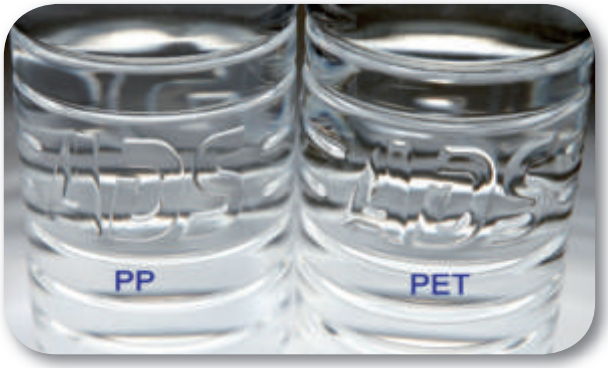
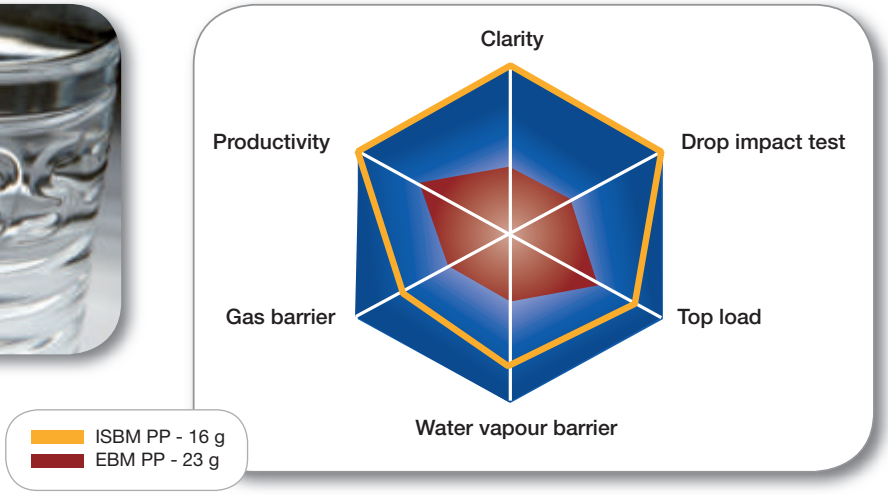
Why stretch PP?

Under stretching, the polypropylene undergoes significant changes in molecular orientation, enhancing optical, mechanical and even barrier properties.





The graph illustrates the advantages of bi-orientation in the case of hollow container production: an Extrusion Blow Moulded bottle is compared to an Injection Stretch Blow Moulded one.

Total Petrochemicals offers a range of polypropylene for EBM and ISBM

Product name	MFI g/10min	Flexural modulus MPa	Izod 23°C kJ/m²	Main characteristics
Random copolymers				
PPR 3260	1.8	1000	7.5	Good transparency combined with an excellent balance of mechanical properties
PPR 3261	1.8	900	16	Good transparency with superior impact at room temperature
PPR 3221	1.8	900	22	Highly transparent product, even at lower processing temperature. Superior impact at room temperature
PPR 7225	10	1300	9	ISBM grade. Material optimized for high speed ISBM machine
Impact copolymers				
PPC 2660	0.8	1100	>50	Excellent melt strength, which makes this product suited for bigger hollow articles
PPC 3660	1.3	1200	>50	Excellent impact resistance at low temperatures

Further information may be found on our website www.totalpetrochemicals.com where all technical data sheets are also available. You may also contact your sales representative.

Marketing and Sales

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