

PP, Polypropylene

Facts:

PP, Polypropylene offers excellent processing, good surface finish and food contact approval. It is a member of the polyolefin family, which also includes polyethylene and is one of the most widely used thermoplastic materials.

Both homo-polymer and copolymer polypropylene offer excellent resistance to moisture and good chemical resistance to acids, alkalis and solvents.

PP is generally regarded as a commodity polymer but the addition of glass fibres makes it suited to engineering related products.

The PP homo-polymer becomes very brittle at temperatures below 0°C (32°F) and for this reason many commercially available grades are random copolymers or block copolymers with higher ethylene content. Copolymers have a lower heat distortion temperature, lower clarity, gloss, and rigidity but greater impact strength.

Applications:

Automotive components, ductwork, fans, components of lawn mowers and sprinklers.

Limitations:

- High thermal expansion
- Difficult to bond
- Poor weathering/UV resistance
- Subject to stress cracking
- Flammable
- Limited high temperature performance

Description

Polypropylene PPH Polypropylene PPH 7060 is homopolymer with a Melt Flow Index of 12 g/10 min.

Polypropylene PPH 7060 is intended for the injection moulding of packaging containers, toys, domestic appliances, garden furniture and caps & closures.

Characteristics

	Method	Unit	Typical Value
Rheological properties			
Melt Flow Index 230°C/2.16 kg	ISO 1133	g/10 min	12
Mechanical properties			
Tensile Strength at Yield	ISO 527-2	MPa	32
Elongation at Yield	ISO 527-2	%	10
Tensile modulus	ISO 527-2	MPa	1550
Flexural modulus	ISO 178	MPa	1450
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m ²	3.5
Charpy Impact Strength (notched) at 23°C	ISO 179	kJ/m ²	4.5
Hardness Rockwell - R-scale	ISO 2039-2		95
Thermal properties			
Melting Point	ISO 3146	°C	165
Vicat Softening Point	ISO 306	°C	
50N-50°C per hour			87
10N-50°C per hour			152
Heat Deflection Temperature	ISO 752	°C	
1.80 MPa - 120°C per hour			55
0.45 MPa - 120°C per hour			100
Other physical properties			
Density	ISO 1183	g/cm ³	0.905
Bulk Density	ISO 1183	g/cm ³	0.525

Safety and Product Stewardship

For safe use and handling, please refer to the Safety Data Sheet.

A Product Stewardship certificate giving the conformity to various regulations or statements on absence of certain chemicals is also available on our web site www.polypropylene.totalpetrochemicals.com

An Injection Moulding troubleshooting guide is available upon request.

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