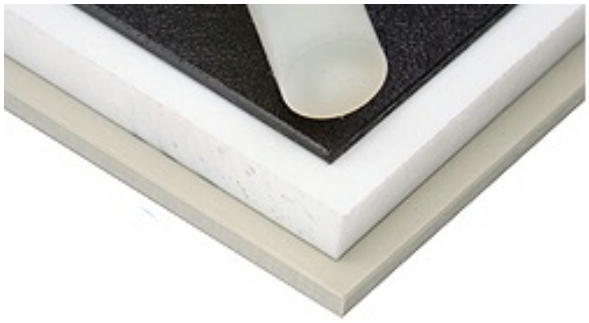
Polypropylene



Polypropylene is a highly chemical resistant plastic available in sheet and rod from Allplastics. Polypropylene is generally grey (mustardy) colour however it is also available in a natural (milky) colour in some thicknesses. Polypropylene is lightweight, with better strength and higher temperature rating than polyethylene. It is easily fabricated, formed, and welded. Thus, it is ideal for use in corrosion resistant applications. It exhibits good electrical properties and is non-toxic for food contact.

Key Features:

- Very low specific density
- Tough
- Very low water absorption
- Corrosion resistant
- Resistant to dilute acids, cleaning agents, numerous solvents
- Very good electrical insulation
- Difficult to bond
- Easily welded
- Low density
- Becomes brittle at low temperatures
- Food grade

Temperature range: -10°C to 100°C

Applications:

- Battery cases
- Tank Liners
- Chemical apparatus
- Hoods, Fume cupboards
- Water treatment plants
- Wall Cladding
- Food processing industry
- Insulators
- Ventilation ducts
- Pallets
- Drip pans
- Electroplating barrels

Polypropylene also offers good thermal and electrical insulation and is also resistant to many acids, alkalis and organic solvents making it an ideal choice for fabrication jobs in chemical and effluent treatment plants. For decorative and lighting applications see Polypropylene Films.

Availability: PPC

Sheet size 3000x1500 up to 30mm

2000x1000 30mm to 120mm

Offers slightly increased elongation at break compared with Homopolymer.

Colour: Natural, black, white, grey and beige. Other colours available upon request.
Sheet size (mm): 2440 x 1220, 2000 x 1000
Thickness (mm): 1 to 120.
Rod dia (mm): 8 to 500.
Length (mm): 2000.

Polypropylene Homopolymer PPH

Homopolymer offers a higher rigidity and chemical stability than copolymer. It is easily machined and fabricated making it suitable for machined parts and rollers.

Colours: Natural or beige.
Sheet size (mm): 2000 x 1000.
Thickness (mm): 1 up to 120.
Rod dia (mm): Up to 140.
Length (mm): 2000.

Technical Information:

Information to be used as a guide only. It corresponds with our current knowledge and indicates possible applications. We cannot guarantee suitability for a specific application. Unless otherwise stated these values represent averages taken from injection moulded samples.

Properties	**Unit**	**Test Method DIN ASTM**	**Result**
Mechanical	-	-	-
Density	g/cm³	53479	0.95 - 0.96
Tensile strength at yield	MPa	53455	24-31
Tensile strength at break	MPa	53455	36
Elongation at Break	%	53455	400-800
Modulus of elasticity in tension	MPa	53457	1000-1400
Modulus of elasticity in flexure	MPa	53457	1000-1400
Ball indentation hardness	MPa	53456	45-60
Impact strength (Charpy)	KJ/m²	53453	no break
Creep rupture strength after 1000 hours with static load	MPa	-	12.5

Time yield limit for 1% elongation after 1000 hours	MPa	-	3
Coefficient of friction against hardened and ground steel p+0,05 N/mm2, v=0,6 m/s	-	-	0.29
Wear conditions as above	µm/km	-	-
Thermal	-	-	-
Crystalline melting point	ºC	53736	-128-133
Glass transition temperature	ºC	53736	-95
Heat distortion temperature method A	ºC	ISO 75	42-49
Heat distortion temperature method B	ºC	ISO 75	70-85
Max. service temperature short term	ºC	-	120
Max. service temperature long term	ºC	-	90
Coefficient of thermal conductivity	W/(m K)	-	0.35-0.43
Specific heat	J/(g K)	-	1.7 - 2
Coefficient of thermal expansion	10-5/K	-	13 - 15
Electrical	-	-	-
Dielectric constant at 10 (5) Hz	-	53483	2.4
Dielectric loss factor at 10(5) Hz	-	53483	0.0002
Specific Volume Resistance	Ωcm	53482	>10 (16)
Surface Resistance	O	53482	>10 (14)
Dielectric strength 1mm	kV/mm	53481	>50
Tracking resistance	-	53480	KA3c
Miscellaneous	-	-	-
Moisture Absorption: Equilibrium in standard atmosphere (23ºC / 50% relative humidity)	%	53714	
Water absorption at saturation at 23ºC	%	53495	0.02
Resistance to hot water, washing soda	-	-	resistant
Flamability	-	UL 94	HB
Resistance to weathering	-	-	Natural: not resistant Black: resistance