PPCO
Co-polymer Polypropylene

Description
A widely used polymer. The ethylene-propylene block copolymers have lower heat distortion temperature, lower clarity, less rigidity than homo-polymer but have greater impact properties. PP can be extensively modified with glass fibres, mineral fillers and thermoplastic rubbers.

Typical Applications
Boxes that have integral hinges, automotive bumpers, instrument panels, pillar and quarter panel trim. Bottle crates, textile bobbins. Talc filled grades have high heat performance and applications include electric kettles.

Types of grade available
Talc filled
Glass coupled grades
Very high impact grades
Flame retardants
High rigidity
Random copolymers giving improved clarity

General Processing

Drying Time	N/A
Drying Temperature	N/A
Type of Drier	N/A
Purging	DYNAPURGE D2 OR F
Moisture Absorption	0.2% in 24 hours at room temperature
Other Considerations	PPCO offers a wide processing window. Tensile Modulus is an important factor with regard to flexibility and softness. Grades with TM-1000 -1200 are softer higher impact and grades with a TM 1300 – 1750 are becoming more rigid.

Processing Injection Moulding

Barrel Settings	190C to 230C
Injection speed	High
Injection Pressure	Medium to High
Back Pressure	Low
Screw Speed	Medium
Tool Temperature	15C to 50C
Melt Temperature	200C to 240C
Processing Stability	At a temperature of 260C, residence time no more than 5 or 6 minutes
Gate Considerations	Gates used include pin, submarine and edge
Sprue & Runner	Use large full round runners and sprues

Considerations

Processing Extrusion	
Barrel Settings	170c – 250c
Screw	Barrier Screw, 25 - 30 L/D
Screen Packs	Yes
Haul-off / Cooling	Water tem at last 10c
Calibration	Vacuum or plate
Mechanical Properties	
Shrinkages	1.5% to 2%
Flexural Modulus	950 – 1750MPa
Tensile strength at Yield	12 – 45 MPa
Physical Properties	
Density	0.905
Cold Bend	N/A
Cold Flex	N/A
Elongation at Break	6%
Tensile Modulus	.5 – 7 MPa
General Impact Strength	Good to Excellent
Material Finish	Glossy shinny finish
Thermal Properties	
Vicat Softening Temperature	70C
Heat Deflection Temperature	92C (standard unfilled grade)
Flammability	
Flammability Rating	Flame retardant grades available
Weatherability	
Suitability for outdoor use	Only if UV stabilised or carbon black grade used
Fillers & Additives	Glass, mineral, TPE, FR and UV
Chemical Resistance	
Resistant to	Solvents, acids, alkalis
Not resistant to	Aromatic and chlorinated hydrocarbons
Food Contact Status	Suitable for food contact

Colouring	As the natural colour of material is a translucent, ivory white, then a wide colour range is possible. Masterbatch is commonly used. Best results given by the use of fully compounded material as dry colours and masterbatches can sometimes give rise to streaking, due to dispersion problems in high impact grades.
REACH & ROHS Compliance	Contains no hazardous substances
Bonding	Because of PP's excellent resistance to solvents the use of solvent based adhesives is limited.
Welding	Hot plate, shoe, friction and ultrasonic welding methods are often preferred. When hot plate welding PP, it is usual to coat or cover the hot plates with PTFE so as to prevent the material sticking to the surfaces of the hot plate

This information has been provided as a general guide and we suggest that you carry out your own specific tests to be sure that this material is suitable for your application.