TPO
Thermoplastic Polyolefin

Description
There are 2 main families of material, i.e. Halogen free PP/EPR based compounds with good elastomeric properties suitable for injection moulding applications, including co-moulding to Polypropylene. They have excellent colourability. These compounds also have good low temperature properties and UV resistance. There are also PP/SBS based compounds, which have excellent elastomeric performance.

Applications
The building industry, glazing gaskets, home furnishings, toys, sports footwear including ski boots and ice-skates.

Types of grade available
Shore A35 to Shore D65
Translucent grades
Opaque grades with excellent all-round properties
Co-moulding high flow grades
Transparent grades
Hard grades with high modulus

General Processing	
Drying Time	N/A
Drying Temperature	N/A
Type of Drier	N/A
Purging	DYNAPURGE A
Moisture Absorption	NO
Other Considerations	Easy to process
Processing Injection Moulding	
Barrel Settings	170°C - 210°C
Injection speed	Medium to Low
Injection Pressure	350 to 1500 kg/cm2
Back Pressure	Medium
Screw Speed	25 to 75 rpm
Tool Temperature	40C to 60C
Melt Temperature	175-200c

Processing Stability	Excellent			
Gate Considerations	Due to the flexibility of TPO small gates can be used such as sub gates and pin gates			
Sprue & Runner Considerations	The sorter the land length the better and use full round runners.			
Processing Extrusion				
Barrel Settings	160 - 210°C			
Screw Speed	50- 100 rpm			
Screen Packs	Breaker plate/screens for higher back pressure and therefore smoother profile surface			
Haul-off / Cooling	Water bath chilled 10c			
Calibration	Suitable for use with a vacuum calibrator or sizing plates.			
Physical Properties				
Density	0.88	1.09	1.04	1.16
Shore A	43 Shore D	50	70	55
Tensile Strength – MPa	15	4.0	5.5	4.5
Tear strength – KN/m	95	19	27	22
Elongation at Break	750%	770%	670%	800%
Flow Rate 230C, 21.16N	9	20	20	8
Shrinkage	0.4% - 2.0% dependent upon thickness & hardness of the end product			
Flammability				
Flammability Rating	HB			
Weatherability				
Suitability for outdoor use	YES			
Fillers & Additives	Plasticiser into eb phase, Reinforcing polymers, Fillers & and other modifying agents,			
Chemical Resistance				
Resistant to	Water, Aqueous Solutions, Strong Acids (except Nitric) Strong Bases, Milk, Beer & Wine, Sodium Hypochlorite, Hydrogen Peroxide			
Not resistant to	Oils, Fats, Petrol, Alcohols, Hydrocarbon Solvents (aliphatic and polar), Mineral Oils			
Food Contact Status	Grades available			
Colouring	Easily coloured using universal masterbatches			

REACH & ROHS Compliance	Yes
Bonding	Can be bonded using a urethane based adhesive
Welding	Can be welded by hot plate welding or high frequency welding

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.