



45GP004

POLYETHYLENE RESIN FOR PIPE EXTRUSION

Relene 45GP004 (PE:80) is a natural coloured grade for pipe extrusion.

It possesses bimodal molecular weight distribution, which improves processability. This grade meets the MFI, Density & Hydrostatic strength requirements of material grade PE:80 as per IS 4984. When incorporated with adequate quantity of carbon black as specified in clause 5.2.3 of IS: 4984, Pipes will meet PE:80 requirements.

Pipe made from Relene 45GP004 grade passes the Internal Pressure Creep Rupture Test when tested with 4.6 MPa induced stress at 80°C for 165 hrs and with 4.9 MPa induced stress at 80°C for 48 hrs as per clause 8.1 of IS 4984, thereby meeting the requirement of PE:80 grade.

This grade conforms to ISO 4427 specification shown below and has been certified for MRS > 8 MPa as per ISO 9080.

Property	Test Method	Unit	Remarks
Hydrostatic Pressure Test	ISO 1167	Hrs	
9 Mpa @20°C			> 100
4.6 Mpa@80°C			> 165
4.0 Mpa@80°C			> 1000
MRS	ISO 9080	MPa	> 8.0
SCG	ISO 13479	Hrs	> 500

Typical Characteristics*			
Property	Test Method	Unit	Typical Value**
Melt Flow Index (190°C/5.0 Kg)	ASTM D1238	gm/10 min	0.45
Density (23°C)	ASTM D1505	gm/cm ³	0.945
Thermal Stability (O.I.T.) 200°C	ASTM D3895	Min	> 30
Tensile Strength at Yield	ASTM D638	MPa	27
Elongation at Break	ASTM D638	%	> 600
Flexural Modulus	ASTM D790	MPa	800
Notched Izod Impact Strength	ASTM D256	J/m	No Break
ESCR, F ₅₀	ASTM D1693	Hrs	> 1000

* Typical values not to be taken as specification

**Mechanical Properties are on Compression moulding



Applications

PE 80 pressure pipes

Regulatory Information

- Meets the requirements stipulated in standard IS : 10146-1982 on "Specification for Polyethylene for safe use in contact with foodstuffs, pharmaceuticals, and drinking water". It also conforms to the positive list of constituents as prescribed in IS : 10141-1982. The grade and the additives incorporated in it also comply with the FDA:CFR Title 21, 177.1520, Olefin polymers.
- The level of antioxidant in 45GP004 is not more than 0.3% by mass of the resin.

Storage Recommendations

- Bags should be stored in dry / closed conditions at temperatures below 50°C and protected from UV / direct sunlight.