



# 46GP003

## POLYETHYLENE RESIN FOR PIPE EXTRUSION

Relene 46GP003 (PE-100) is a natural colored 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-100 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:100 requirements.

Pipes made from Relene 46GP003 grade passes the Internal Pressure Creep Rupture Test when tested with 5.5 MPa induced stress at 80°C for 165 hrs and with 5.7 MPa induced stress at 80°C for 48 hrs as per clause 8.1 of IS 4984, thereby meeting the requirements of PE100 grade.

The grade conforms to ISO 4427 specification shown and has been certified for MRS > 10MPa as per ISO 9080.

Property	Test Method	Unit	Remarks
Hydrostatic Pressure Test	ISO 1167	Hrs	
12.4 MPa @ 20°C		–	> 100
5.4 MPa @ 80°C		–	> 165
5.0 MPa @ 80°C		–	> 1000
MRS	ISO 9080	MPa	> 10.0
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	0.30
Density ( 23°C )	ASTM D1505	gm/cm <sup>3</sup>	0.945
Thermal stability (O.I.T) 200°C	ASTM D3895	Min	> 30
Tensile Strength at Yield	ASTM D638	MPa	28
Elongation at break	ASTM D638	%	> 600
Flexural Modulus	ASTM D790	MPa	850
Notched izod impact strength	ASTM D256	J/m	No Break
ESCR, F <sub>50</sub>	ASTM D1693	Hours	> 1000

\*Typical values not to be taken as specification

\*\*Mechanical Properties are on Compression moulding

### Application

PE-100 pressure pipes.

### Regulatory Information

- Meets the requirement 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 46GP003 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.

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