

Indothene HD 45GP004

High Density Polyethylene

Reliance Industries Limited

Message:

Indothene-HD 45GP004 is a natural coloured PE 80 (MRS 8 MPa*) material for pipe extrusion, produced by Stirred Tank Heavy Diluent (STHD) Slurry process. 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:4984:1995 on "High Density Polyethylene pipe for water supply-specification". The designation of the natural resin of 45GP004 is PE-ENA-C45-T006 as per IS:7328-1992 and shall meet the same given in the amendment No. 2 of IS:4984:1995. When incorporated with adequate quantity of carbon black as specified in clause 5.2.3 of IS:4984:1995, will meet the requirements of the designation PE-EW-C45-T006 mentioned in the clause 5.2 of IS:4984:1995.

This grade meets the requirements of Indian Standard IS-10146-1982 on "Polyethylene for its safe use in contact with food stuffs, pharmaceuticals and drinking water". It also conforms to the positive list of constituents as approved in IS:10141:1982. The grade complies with FDA regulation : CFR title 21 , 177.1520, Olefin polymer. The level of antioxidant in 45GP004 is not more than 0.3% by mass of the resin.

General Information			
Features	Compliance of Food Exposure		
Uses	Piping system		
Agency Ratings	FDA 21 CFR 177.1520		
	PPI PE-80		
Appearance	Natural color		
Forms	Particle		
Processing Method	Pipeline extrusion molding		
	Extrusion		
Physical	Nominal Value	Unit	Test Method
Density	0.945	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/21.6 kg	12	g/10 min	ASTM D1238
190°C/5.0 kg	0.45	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (Injection Molded, F50)	> 1000	hr	ASTM D1693
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹ (Yield, 3.20 mm, Injection Molded)	27.0	MPa	ASTM D638
Tensile Elongation ² (Break, Compression Molded)	600	%	ASTM D638
Flexural Modulus ³ (3.20 mm, Injection Molded)	800	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.20 mm, Injection Molded)	No Break		ASTM D256
Additional Information			

Hydrostatic Pressure Test, ISO 1167, 9 MPa, 20°C: >100 hrsHydrostatic Pressure Test, ISO 1167, 4.6 MPa, 80°C: >165 hrsHydrostatic Pressure Test, ISO 1167, 4 MPa, 80°C: >1000 hrsMRS, ISO TR9080: >8.0 MPaSCG, ISO 13479: >165 hrsRCP, ISO 13477: >12 barTensile Elongation at Break, ASTM D 638, Type IV, 3.2 mm: >600%

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	190	°C
Cylinder Zone 2 Temp.	210	°C
Cylinder Zone 3 Temp.	220	°C
Cylinder Zone 4 Temp.	230	°C
Die Temperature	225	°C

NOTE

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| 1. | Type 1 |
| 2. | Type 4 |
| 3. | Type 1 |

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