

TECHNICAL DATA SHEET

P5300

P5300 is a HDPE pipe grade produced by Mitsui CX Process

P5300 combines excellent processability with good creep resistance, high ESCR and excellent mechanical properties

P5300 has MRS 11.2 MPa according to ISO 9080 and is designated PE 112 according to ISO 12162

BIS Designation Code: IS 7328-3B-PBK-EXTA

Property	Test Method	Unit	Nominal Value
Melt Flow Index (2.16 kg, 190°C)	ASTM D1238, IS 13360 (Part 4/Sec 1)	g/10 min	0.05
Melt Flow Index (5 kg, 190°C)		g/10 min	0.25
Melt Flow Index (21.6 kg, 190°C)		g/10 min	9.5
Density (23°C, Annealed)	ASTM D1505, IS 13360 (Part 3/Sec 11)	g/cm ³	0.950
Density (23°C, Annealed)	JIS MCI HZ-F-109	g/cm ³	0.954
Density (27°C, Annealed)	IS 4984	g/cm ³	0.948
Physical Property			
Tensile Strength at Yield	ASTM D638 (50 mm/min)	MPa	26
Elongation at Yield		%	11
Tensile Strength at Break		MPa	40
Elongation at Break		%	800
Notched Izod Impact Strength (23°C)	ASTM D256A	J/m	270
Flexural Modulus	ASTM D790A	MPa	1100
Hardness	ASTM D2240	Shore D	65
ESCR (F ₅₀ , 10% Igepal soln. v/v)	ASTM D1693B	Hr	>1000
Vicat Softening Point (10 N)	ASTM D1525	°C	125
Heat Deflection Temperature (0.455 MPa)	ASTM D648	°C	70
DSC Melting Temperature	ASTM D3418	°C	131
Oxidative Induction Time	ASTM D3895	min	>30
Critical Pressure for Crack Propagation at 0 °C	ISO 13476	Bar	≥12

Suggested Processing Conditions	
Barrel Temperature	160 – 220 °C
Die Temperature	180 – 220 °C

*Halene H is the registered trademark of High Density Polyethylene of Haldia Petrochemicals Limited

Mechanical Properties are tested on specimens from Compression Molded sheets

Pre drying of the material at ~ 90 °C for ~ 2 hours before processing is recommended

This grade meets the requirements of:

IS 7328:2020 Specification for Polyethylene Material for Moulding and Extrusion

IS 16738:2018 Positive List of Constituents for Polypropylene, Polyethylene and their Copolymers for its Safe Use in Contact with Foodstuffs and Pharmaceuticals

IS 10146 for use in contact with foodstuffs, pharmaceuticals and drinking water

This product is not recommended for manufacturing of Single Use Plastic (SUP) items listed under Plastics Waste Management (PWM) Rule 2016 and its latest amendment

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