

P51H10



High Density Polyethylene

Pipe Extrusion

Product Description:

HDPE P51H10 is a natural colored grade produced with the latest Mitsui CX slurry polymerization Technology exhibiting following features:

- ✓ Very Good Processing Properties
- ✓ Good mechanical properties
- ✓ Excellent Stress Crack Resistance
- ✓ Good Creep Resistance

HDPE P51H10 is recommended for following applications:

- ✓ Pressure pipes for drinking water and Irrigation
- ✓ Pipes for Civil Engineering & Drainage
- ✓ Corrugated Tubes & Pipes.
- ✓ Large Diameter irrigation pipes

MRS Classification: OPaLene HDPE P51H10 has a Minimum required strength (MRS) classification of 10 MPa according to ISO 9080 and is designated PE100 grade according to ISO 12162.

Properties	Test Method	UOM	Minimum Burst time
SCG (Notch pipe testing @ 80°C,9.2 bar)	ISO 13479	Hrs	387
RCP- S4 test (Critical pressure to Rapid crack propagation)	ISO 13477	Bar	≥10 (Critical Pressure@ 0°C)

Typical Properties:

Sr. No.	Properties	Test Method	Units	Values*
Physical Properties				
1	Melt Flow Index (190°C & 5 kg)	ASTM D1238	g / 10 min	0.45
2	Density (at 23 °C)	ASTM D1505	gm/cm ³	0.951
Mechanical Properties				
3	Tensile Strength @ Yield (50mm / min)	ASTM D638	MPa	23
4	Elongation @ Break (50mm / min)	ASTM D638	%	>500
5	Notched Izod Impact Strength (at 23 °C)	ASTM D256A	J/m	>250
6	Flexural Modulus	ASTM D790A	MPa	900
7	Hardness	ASTM D2240	Shore D	60
8	ESCR (F ₅₀ , 10% Igepal Soln. v/v)	ASTM D1693B	Hours	>600
Thermal Properties				
9	Vicat Softening Point (10N)	ASTM D1525	°C	122
10	Heat Deflection Temperature (0.455 Mpa)	ASTM D648	°C	62
11	Oxidative Induction Time (OIT)	ASTM D3895	Minutes	>30
** Mechanical Properties tested on Compression Molded Specimen.				
* Typical Values and not to be taken as specification limits, values may change without any prior notice.				

Recommended Processing Temperature: 180 – 220 °C

Note: This product is not to be used in the manufacture of SUP (Single Use Plastic) items prohibited under

PWM (Plastics Waste Management) Rules, 2016.

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Provisional Technical Datasheet

P51H10



Regulatory Requirements:

HDPE Pipe grade P51H10 meets the requirements stipulated in IS 10146:1982 on 'Specification of Polyethylene for safe use in contact with Foodstuff, Pharmaceutical & Drinking water'. The grade and Additives incorporated in this grade meet 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.

Storage & Handling:

Prevent Polyethylene Material from direct exposure to sunlight & heat to avoid quality deterioration. The storage location should be dry, dust free and the Storage temperature should not exceed 50 °C. Non - compliance to these precautionary measures can lead to degradation of the product causing Color changes, Odor & inadequate product performance.

Health and Safety Information:

The product described herein may require precautions in handling and use because of toxicity, flammability, or other consideration. The Material Safety Data Sheet (MSDS) contains the available product health and safety information for this material and can be found at www.opalindia.in. Before using any material, a customer is advised to consult the MSDS for the product under consideration for use.



ONGC Petro additions Ltd

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