

## High Density Polyethylene

## Pressure Pipe

### Product Description:

**HDPE 004DP44** is a natural high density bimodal grade with Excellent Processability & Mechanical Strength. This Grade meet the requirements of material grade PE 80 as per IS: 4984:1995 on "High Density Polyethylene pipe for water supply - Specification".

### Recommended Applications:

**HDPE 004DP44** is recommended for pressure pipe applications for water transportation, sprinkler irrigation & Sewerage

The designation of the natural resin **HDPE 004DP44** is PEEAA-45-T006 as per IS: 7328 - 1992 and meet the same given in the amendment No.4 of IS: 4984: 1995.

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### Typical Properties:

Tested Properties	Test Method	UOM	Values*
<b>Resin Properties</b>			
Melt Flow Index (190°C & 5 Kg)	ASTM D 1238	gm/10 min	0.45
Density @ 23°C	ASTM D 1505	gm/cm <sup>3</sup>	0.945
<b>Mechanical Properties</b>			
Tensile Strength @ Yield (Type-IV)	ASTM D 638	MPa	27
Elongation @ Break (Type-IV)	ASTM D 638	%	>600
Flexural Modulus	ASTM D 790	MPa	800
Notched Izod Impact Strength @ 23°C	ASTM D 256	J/m	No Break
Hardness	ASTM D2240	Shore D	61
Hydrostatic Pressure test 80 °C & $\sigma_i$ 4.6 MPa	IS4984	165 Hrs	Pass
Hydrostatic Pressure test 80 °C & $\sigma_i$ 4.9 MPa	IS4984	48 Hrs	Pass
<b>Thermal Properties</b>			
Vicat Softening Point	ASTM D 1525	°C	126
Oxidative Induction Time	ASTM D3895	Min	> 30
<b>Thermo Chemical Properties</b>			
ESCR, F50 (10% Igepol)	ASTM D1693	Hrs	>1000

\* Typical values not to be construed as specification limits. Values may change without any prior notice.

\*\* Mechanical properties were determined on compression moulded specimens.

**Recommended Processing Temperature: 180 – 220 °C**

### Packaging Information:

This material is packed and available in raffia bags with net content of 25.0 Kg only. The raffia bags used conforms to the minimum strength requirements of BIS, however, customer shall take due care while handling the bag. Prolonged exposure of these bags to sunlight may deteriorate the bag's performance and cause spillage and wastage. IOCL does not warranty loss of material due to poor material handling practices.

### Regulatory Information:

HDPE 004DP44 meets "Specification for Polyethylene for safe use in contact with Foodstuff, Pharmaceutical & Drinking water" as per IS:10146-1982. It also conforms to the positive list of constituents as prescribed in IS:10141-1982. The grade and Additives incorporated meet with FDA:CFR Title21,177.1520, Olefin Polymers.

### Storage & Handling:

Prevent HDPE 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. It is advised to process HDPE material within 06 months after delivery.

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