



GAIL (India) Ltd.
(A Govt. of India Undertaking)
Petrochemicals Marketing

P52A003

High Density Polyethylene (PE 100) for Pipe Extrusion

Product Description and Typical Applications:

P52A003 is virgin resin grade, suitable for producing high pressure pipes for potable water meeting the hydrostatic strength requirements as per IS 4984:2016 for PE-100 material. It offers high ESCR, high creep resistance and excellent mechanical properties. It possesses bimodal molecular weight distribution for excellent processability. The material conforms to natural resin designation IS 7328-3B-PB-FXTA of IS 7328:2020. The grade has a minimum required strength (MRS) of 10 MPa as per ISO 9080 and designated as PE-100 according to ISO 12162.

Property	Values*	Unit	Test Method
Melt Flow Index (I ₅)	0.25	g/10min	ASTM D1238
Density @ 23°C	0.952	g/cc	ASTM D1505
MRS	>10	MPa	ISO 9080
SCG	>500	hrs	ISO 13479
Tensile Strength @ Yield	245	kg /cm ²	ASTM D638, Type IV
Elongation @ Yield	11	%	ASTM D638, Type IV
Elongation @ Break	600	%	ASTM D638, Type IV
Flexural Modulus	10000	kg /cm ²	ASTM D790
Izod Impact Strength	280	j/m	ASTM D256
Shore D Hardness	62	-	ASTM D2240
ESCR (10% Igepol), F ₅₀	>1000	hrs	ASTM D1693
Vicat Softening Point	123	°C	ASTM D1525
Thermal stability (OIT)	>45	minutes	ASTM D 3895

* Typical characteristics of the product given purely as a guide. Mechanical properties were determined on compression moulded specimens.

Processing Guidelines:

Barrel temperature: 180 - 230°C

Regulatory Information:

Certificate is available on request.

Packaging & Storage:

P52A003 is available in natural colour, pellet form in 25 kg woven sacks. The product should be stored in dry conditions at temperature below 50°C and protected from UV light.

For any technical assistance contact:

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