HALDIA PETROCHEMICALS LTD

# Halene – H*

## TECHNICAL DATA SHEET P5100

**P5100** is a HDPE pipe grade produced by Mitsui CX Process

**P5100** combines excellent processability with good creep resistance, ESCR and mechanical properties

**P5100** is recommended for **PE 80** compliant pressure pipes

**BIS Designation Code:** IS 7328-3B-PB-FXTA

| 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 | 0.09 |
| Melt Flow Index (5 kg, 190°C) | | g/10 min | 0.50 |
| Melt Flow Index (21.6 kg, 190°C) | | g/10 min | 14 |
| Density (23°C, Annealed) | ASTM D1505, IS 13360 (Part 3/Sec 11) | $g/cm^3$ | 0.952 |
| Density (23°C, Annealed) | JIS MCI HZ-F-109 | $g/cm^3$ | 0.955 |
| Density (27°C, Annealed) | IS 4984 | $g/cm^3$ | 0.948 |
| **Physical Property** | | | |
| Tensile Strength at Yield | ASTM D638 (50 mm/min) | MPa | 25 |
| Tensile Strength at Break | | MPa | 38 |
| Elongation at Break | | % | 900 |
| Notched Izod Impact Strength (23°C) | ASTM D256A | J/m | 200 |
| Flexural Modulus | ASTM D790A | MPa | 1000 |
| Hardness | ASTM D2240 | Shore D | 65 |
| ESCR ($F_{50}$, 10% Igepal soln. v/v) | ASTM D1693B | Hr | >500 |
| Vicat Softening Point (10 N) | ASTM D1525 | °C | 125 |
| Heat Deflection Temperature (0.455 MPa) | ASTM D648 | °C | 64 |
| DSC Melting Temperature | ASTM D3418 | °C | 131 |
| Oxidative Induction Time | ASTM D3895 | min | >30 |
| **Suggested Processing Conditions** | | | |
| Barrel Temperature | 160 – 180 °C | | |
| Die Temperature | 170 – 190 °C | | |

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

Mechanical Properties are on specimens from Compression Molded sheet prepared in accordance with ASTM D4703

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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