HALDIA PETROCHEMICALS LTD

# Halene – H*

## 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 | | % | 900 |
| Notched Izod Impact Strength (23°C) | ASTM D256A | J/m | 270 |
| Flexural Modulus | ASTM D790A | MPa | 1000 |
| 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 |

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| 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 on specimens from Compression Molded sheet prepared in accordance with ASTM D4703

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.*

*The information and data presented herein are typical values of representative samples and should not be construed as specification or tested values of supplied product. Prior to use, buyer shall ensure independently through tests and trials, that HPL products can be handled and used by them legally, safely, and suitably for their intended operation and end-use application. No warranty or guarantee expressed or implied is made regarding performance or otherwise. In no event shall HPL be liable for any damage, loss or injury directly or indirectly suffered as a result of use of product or information provided herein. The information & data contained herein are reliable to the best of our knowledge on the date of release of the document and is subject to change without prior intimation based on research & development work undertaken by HPL*

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