

## Technical Datasheet

# P0142S Polysure HDPE

PE 63 Pipe

### Product Characteristics:

Polysure P0142S is 1-hexene co-monomer based High Density Polyethylene, produced by Gas Phase – UNIPOLTM PE technology, suitable for Pipe Extrusion process. P0142S offers excellent processability & good mechanical properties. Pipes made with P0142S have smooth surface finish, good creep resistance & high ESCR. Pipes when produced with P0142S and optimum dosage of carbon black as specified in clause 5.2.3 of IS 4984, will meet the hydrostatic strength requirement of PE 63 class of pipes.

### Recommended Applications:

PE 63 pressure pipes for water conveying, HDPE sprinkler pipes, drip irrigation, ducting, sewerage & drainage pipes.

### Typical Properties:

| Sr. No. | Property                                      | Test Method                | Unit     | Value* |
|---------|---|----------------------------|----------|--------|
| 1       | Melt Flow Index (190°C & 5 kg)                | ASTM D1238                 | g/10 min | 0.90   |
| 2       | Density (23°C)                                | ASTM D1505                 | g/cc     | 0.947  |
| 3       | Tensile Strength at Yield, Type IV Specimen   | ASTM D638<br>(50 mm / min) | MPa      | 22     |
| 4       | Tensile Elongation at Break, Type IV Specimen |                            | %        | 1000   |
| 5       | Flexural Modulus (2% Secant)                  | ASTM D790B                 | MPa      | 800    |
| 6       | Notched Izod Impact Strength (23°C)           | ASTM D256A                 | J/m      | 200    |
| 7       | Vicat Softening Point (10N)                   | ASTM D1525                 | °C       | 122    |
| 8       | ESCR (F50), 10% Igepal                        | ASTM D1693B                | Hour     | >1000  |
| 9       | Oxidative Induction Time                      | ASTM D3895                 | Min      | >30    |

\* All the mechanical properties are determined on Compression Molded Test Specimen, prepared in accordance with ASTM D4703

### Processing Guidelines:

- Barrel Temperature : 180 - 220°C
- Die Temperature : 190 - 210°C

### Storage & Handling:

Bags should be stored in dry & dust free environment at temperature below 50°C and Prevent from direct exposure to sunlight & heat to avoid quality deterioration.

This grade meets the requirements of IS 7328:2020 - Specification for Polyethylene Material for Moulding and Extrusion.

### Regulatory Requirements:

P0142S to be manufactured complying the requirements specified in IS 10146 on "Specification for Polyethylene for its safe in contact with Foodstuff, Pharmaceutical & Drinking water". Furthermore, the Additives added in this grade formulation compiles to the "Positive list of constituents for Polypropylene, Polyethylene and their Copolymers for its safe use in contact with Foodstuffs & Pharmaceuticals' as laid down under IS 16738:2018. In general, the additives & constituents used in the grade are in line with requirement laid down under FDA: CFR Title 21,177.1520, Olefin Polymers.

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