

## HDPE Natural Polyethylene



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## PHYSICAL PROPERTIES

Poly Hi Solidur's high density polyethylene (HDPE) is used in a variety of applications and industries where excellent impact resistance, high tensile strength, low moisture absorption and chemical- and corrosion-resistance properties are required. It is available in both extruded (up to 1" thick) and pressed sheet (from 1" through 4" thick).

| Property                                | Method      | Unit                   | Nominal Value*         |
|---|-------------|------------------------|------------------------|
| Density                                 | ASTM D-792  | g/cm <sup>3</sup>      | 95                     |
| Tensile strength at yield               | ASTM D-638  | psi                    | 4279                   |
| Tensile modulus                         | ASTM D-638  | psi                    | n/a                    |
| Elongation at yield                     | ASTM D-638  | %                      | 18                     |
| Elongation at break                     | ASTM D-638  | %                      | n/a                    |
| Tensile impact                          | DIN 53448   | ft-lbs/in <sup>2</sup> | 570                    |
| Flexural modulus                        | ASTM D-790  | psi                    | 166,796                |
| Flexural strength                       | ASTM D-790  | psi                    | n/a                    |
| Izod impact                             | ASTM D-4020 | ft-lbs/in <sup>2</sup> | 1.3                    |
| IZOD impact notched                     | ASTM D-2240 | ft-lbs/in <sup>2</sup> | n/a                    |
| Compressive modulus                     | ASTM D-695  | psi                    | n/a                    |
| Compressive deformation                 | ASTM D-621  | % at 1000 psi          | n/a                    |
| Melting point                           | ASTM D-3417 | °F                     | 264                    |
| Hardness                                | ASTM D-2240 | Shore D                | 67                     |
| Coefficient of linear thermal expansion | ASTM D-696  | in/in/°F               | 6.7 x 10 <sup>-5</sup> |
| Heat deflection temperature, 66 psi     | ASTM D-648  | °F                     | 170                    |
| Max operating temp.                     |             | °F                     | 170                    |
| Volume Resistivity                      | ASTM D-257  | Ohm-cm                 | >10 <sup>15</sup>      |
| Surface Resistivity                     | ASTM D-257  | Ohm                    | >10 <sup>15</sup>      |
| Water absorption 24hrs.                 | ASTM D-570  | %                      | 0.0001                 |

\*All values are determined on specimens prepared according to ASTM 1248-84 "Standard Specifications for Polyethylene Plastic Molding and Extrusion Materials". Nominal values should not be interpreted as specifications.

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