



VINPOL™ HD00453R

High Density Polyethylene

Melt Index: 0.4

Density: 0.953

VINPOL HD00453R is a high density polyethylene exhibiting good stiffness and environmental stress crack resistance. This product contains stearate as a core rod release for the injection-blow molding process. Typical applications include bottles for household chemicals, food and personal care products. The base resin in this product meets the FDA requirements stipulated in 21 CFR 177.1520(a)(3)(i) and (c)3.2a. This product may also contain adjuvant substances that may be safely used in polymers used for the manufacture of articles that come into direct contact with food meeting the requirements of 21 CFR 177.1520(b). This product may only be used in conditions of use B-H and temperatures at or below 212°F, as described in Table 2 or 176.170(c).

| Resin Property | Typical Value | Units | Test Method |
|--|-----------------|--|-----------------|
| Melt Index, 2.16 Kg at 190°C | 0.4 | g/10 min | ASTM D-1238 |
| Density | 0.953 | g/cc | ASTM D-1505 |
| Environmental Stress Crack Resistance, F ₅₀ (100% Igepal, Condition B) | 25 | hrs | ASTM D-1693 |
| Tensile Yield Strength | 4000 (27.6) | psi (MPa) | ASTM D-638 |
| Tensile Elongation at Break | >500 | % | ASTM D-638 |
| Flexural Modulus | 176,000 (1,210) | psi (MPa) | ASTM D-790 |
| Tensile Impact Strength | 131 (275) | ft-lb/in ² (kJ/m ²) | ASTM D-1822 |
| Shore Hardness | 67 | Shore D | ASTM D-2240 |
| Vicat Softening Temperature | 261 (127) | °F (°C) | ASTM D-1525 |
| Low Temperature Brittleness, F ₅₀ | <-105 (<-76) | °F (°C) | ASTM D-746 |
| Deflection Temperature Under Load (66psi, Unannealed) | 167 (75) | °F (°C) | ASTM D-648 |
| Additive: Stearate | Medium | Level | Supplier Method |

Vinmar Polymers America cannot anticipate or control the many different conditions under which this information and/or product may be used. It does not guarantee the applicability or the accuracy of this information or the suitability of its products in any given situation. User of the material should make their own tests to determine the suitability of each such product for their particular purposes. The data listed herein falls within the normal range of product properties, but they should not be used to establish specification limits or used alone as the basis of design.