

## High Density Polyethylene IE59U3

### Description:

IE59U3 is a High Density Polyethylene, narrow molecular weight homopolymer, produced by solution process for injection molding applications. It offers high stiffness and impact strength, good processability and low warpage.

It contains light stabilizer and antioxidant additive.

### Application:

Large containers, technical articles with high mechanical and weathering resistance. buckets, trash containers, crates and safety helmets.

### Control Properties:

	ASTM Methods	Units	Values
Melt Flow Rate (190/2.16)	D 1238	g/10 min	5.0
Density	D 792	g/cm <sup>3</sup>	0.959

### Typical Properties:

Plaque Properties<sup>a</sup>

	ASTM Methods	Units	Values
Tensile Strength at Yield	D 638	MPa	28
Tensile Strength at Break	D 638	MPa	26
Flexural Modulus – 1% Secant	D 790	MPa	1200
Shore D Hardness	D 2240	-	57
Notched Izod Impact Strength	D 256	J/m	85
Environmental Stress Cracking Resistance <sup>b</sup>	D 1693	h/F50	< 4
Vicat Softening Temperature at 10 N	D 1525	°C	129
Deflection Temperature under Load at 0.455 MPa	D 648	°C	74

(a) Test specimens prepared from compression molded sheet made according to ASTM D 4703. (b) Compression molded 2 mm thickness, 0.3 mm notched-plaques. 10% Igepal. 50°C.

### Recommended Processing Conditions:

IE 59U3 has been developed for injection molding under conditions comparable to High Density Polyethylene of similar Melt Flow Index. Recommended temperature profile: 160 to 230°C.

