

# ISOPLAST\* 301

## Engineering Thermoplastic Polyurethane Resin

Properties	Test Method	Values <sup>(1)</sup>
<b>Physical</b>		
Mould Shrinkage, %	ASTM D 955	0.4 – 0.6
Water Absorption, 24 hours at 23 °C, %	ASTM D 570	0.19
Specific Gravity, g/cm <sup>3</sup>	ASTM D 792	1.20
<b>Mechanical</b>		
Tensile Strength at Yield, MPa	ASTM D 638	69
Tensile Strength at Break, MPa	ASTM D 638	63
Elongation at Yield, %	ASTM D 638	7
Elongation at Break, %	ASTM D 638	140
Tensile Modulus, MPa	ASTM D 638	2,100
Flexural Strength, MPa	ASTM D 790	97
Flexural Modulus, MPa	ASTM D 790	2,300
Izod Impact Strength	ASTM D 256	
3.2 mm; 23 °C, J/m		128
3.2 mm; -40 °C, J/m		43
6.4 mm; 23 °C, J/m		91
Instrumented Dart Impact	ASTM D 3763	
at 23 °C, J		90
at -29 °C, J		90
Rockwell Hardness	ASTM D 785	
R Scale		123
M Scale		74
<b>Thermal</b>		
Heat Deflection Temperature Under Load	ASTM D 648	
HDT/B (0.46 MPa) unannealed, °C		88
HDT/B (0.46 MPa) annealed, °C		104
HDT/A (1.8 MPa) unannealed, °C		77
HDT/A (1.8 MPa) annealed, °C		99
Vicat Temperature, °C	ASTM D 1525	109
Coefficient of Linear Thermal Expansion	ASTM D 696	6.1 K <sup>-1</sup> x 10 <sup>-5</sup>
<b>Optical</b>		
Gardner 60° Gloss, %	ASTM D 823	–
Light Transmission, %	ASTM D 1003	90
Yellowness Index	ASTM D 1925	6
<b>Processing Information</b>		
Recommended Drying Temperature, °C		95 – 110
Recommended Melt Temperature, °C		230 – 250
Recommended Mould Temperature, °C		65 – 95

(1) Typical values, not to be construed as specifications. Users should confirm results by their own tests.

