

Type: Isoplast® 301 is an Engineering Thermoplastic Resin.

Typical Properties	Test Method	English		S.I.	
		Values*	Units	Values*	Units
Specific Gravity	D 792	1.20	-	1.20	-
Water Absorption @ 73° (23° C), 24hrs	D570	0.19	%	0.19	%
Mold Shrinkage	D955	0.004-0.006	in/in	0.004-0.006	mm/mm
Optical Properties					
Light Transmission	D 1003	90	%	90	%
Gardner Gloss, 60°	D 823	-	%	-	%
Mechanical Properties					
Tensile Modulus	D 638 ¹	310,000	psi	2,140	MPa
Tensile Strength at Yield	D 638	10,000	psi	69	MPa
Tensile Strength at Break	D 638	9,000	psi	63	MPa
Elongation at Yield	D 638	7	%	7	%
Elongation at Break	D 638	140	%	140	%
Flexural Modulus	D 790	340,000	psi	2,340	MPa
Flexural Strength	D 790	14,000	psi	97	MPa
Notched Izod Impact Strength					
@ 73°F (23°C)	D 256 ²	2.4	ft-lb/in	128	J/m
@ -40°F (-40°C)	D 256	0.8	ft-lb/in	42.7	J/m
Instrumented Dart Impact energy (total Energy)					
@ 73°F (23°C)	D 3763 ³	800	in/lb	90	J
@ -20°F (-29°C)	D3763	800	in/lb	90	J
Rockwell Hardness	D 785	M74/R123	in/lb	M74/R123	J
Thermal Properties					
HDT @66 psi (0.45 MPa) - unannealed	D648 ⁴	190	°F	88	°C
@66 psi (0.45 MPa) - annealed	D648	220	°F	104	°C
@264 psi (1.8 MPa) - unannealed	D 648	170	°F	77	°C
@264 psi (1.8 MPa) - annealed	D 648	210	°F	99	°C
Vicat Softening Temperature	D 1525	228	°F	109	°C
Coefficient of Linear Thermal Expansion					
-40°F to 180°F (-40°C to 82°C)	D 696	3.4E-05	in/in/°F	6.1E-05	mm/mm°C
Processing Information					
Recommended Drying Temperature		200-230	°F	93-110	°C
Recommended Melt Temperature		450-480	°F	232-249	°C
Recommended Mold Temperature		150-200	°F	66-93	°C

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

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¹D 638; Type I; 2 in/min (51 mm/min)

³D 3763; 0.125 in; 8,000 ipm (3.2 mm; 203 m/min)

²D 256; 0.125in; 10 mil notch (3.2mm; 0.25 mm notch)

⁴D 648; 0.125 in (3.2 mm)

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