

# Product Data Sheet

## DuraStar™ Polymer MN630

### Application/Uses

- Blood Contact
- Drug Delivery
- IV Components
- Medical
- Surgical Instruments

### Key Attributes

- Chemical resistance to most medical solvents including lipids and IPA
- Ease of processing
- Gamma and E-beam color stability

### Product Description

DuraStar™ Polymer MN630 has excellent appearance and is nearly water-clear. Its most outstanding features are toughness, chemical resistance, and excellent processing characteristics. DuraStar™ Polymer MN630 has very good toughness as shown by Izod impact resistance. Easy to process with minimal drying time, it flows readily and fills the most intricate tools. It does not contain a mold release.

### Typical Properties

Property <sup>a</sup>	Test <sup>b</sup> Method	Typical Value, Units <sup>c</sup>
<b>General Properties</b>		
Specific Gravity	D 792	1.19
Mold Shrinkage	D 955	0.003 mm/mm (0.003 in./in.)
Water Absorption, 24 h immersion	D 570	0.15%
<b>Mechanical Properties</b>		
Tensile Stress @ Yield	D 638	50 MPa (7200 psi)
Tensile Stress @ Break	D 638	43 MPa (6300 psi)
Elongation @ Yield	D 638	5%
Elongation @ Break	D 638	270%
Flexural Yield Strength	D 790	68 MPa (9800 psi)
Flexural Modulus	D 790	1900 MPa (2.7 x 10 <sup>5</sup> psi )
Rockwell Hardness, R Scale	D 785	107
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	80 J/m (1.5 ft·lbf/in.)
@ -40°C (-40°F)	D 256	44 J/m (0.8 ft·lbf/in.)

Impact Strength, Unnotched

@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	40 J (30 ft·lbf)
@ -40°C (-40°F)	D 3763	38 J (28 ft·lbf)

### Thermal Properties

Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	73°C (163°F)
@ 1.82 MPa (264 psi)	D 648	66°C (150°F)
Vicat Softening Temperature @ 1 kg load	D 1525	86°C (186°F)

### Optical Properties

Total Transmittance	D 1003	92%
Haze	D 1003	< 1%

### Typical Processing Conditions

Drying Temperature	70°C (160°F)
Drying Time	4 hrs
Processing Melt Temperature	230-280°C (450-530°F)
Mold Temperature	15-30°C (60-80°F)

<sup>a</sup> Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

<sup>b</sup> Unless noted otherwise, the test method is ASTM.

<sup>c</sup> Units are in SI or US customary units.

### Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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