

## Product Texts

DuraStar™ Polymer MN621 has been tested for FDA/ISO 10993 and USP Class VI Biological Evaluation testing after Gamma and EtO sterilization. It contains a mold release to improve ejection. It has excellent appearance and is nearly water-clear. This resin is the toughest of the Durastar™ family of products. It processes easily and requires minimal drying time. It has superior toughness, high clarity and good chemical resistance.

| Processing/Physical Characteristics                | Value | Unit              | Test Standard |
|--|-------|-------------------|---------------|
| <b>ASTM Data</b>                                   |       |                   |               |
| Mold Shrinkage, MD                                 | 0.004 | mm/mm             | ASTM D 955    |
| <b>Mechanical properties</b>                       |       |                   |               |
| <b>ISO Data</b>                                    |       |                   |               |
| Yield stress                                       | 47    | MPa               | ISO 527       |
| Yield strain                                       | 4     | %                 | ISO 527       |
| Stress at break                                    | 49    | MPa               | ISO 527       |
| Strain at break                                    | 210   | %                 | ISO 527       |
| Flexural modulus, 23°C                             | 1750  | MPa               | ISO 178       |
| Flexural strength                                  | 64    | MPa               | ISO 178       |
| Izod notched impact strength, +23°C                | 29.6  | kJ/m <sup>2</sup> | ISO 180/1A    |
| Izod notched impact strength                       | 6.3   | kJ/m <sup>2</sup> | ISO 180/1A    |
| Temperature  | -40   | °C                | -             |
| Puncture energy, +23°C                             | 71    | J                 | ISO 6603-2    |
| <b>ASTM Data</b>                                   |       |                   |               |
| Tensile Strength at Yield                          | 46    | MPa               | ASTM D 638    |
| Tensile Strength at Break                          | 53.1  | MPa               | ASTM D 638    |
| Elongation at Yield                                | 5     | %                 | ASTM D 638    |
| Elongation at Break                                | 310   | %                 | ASTM D 638    |
| Flexural Modulus                                   | 1900  | MPa               | ASTM D 790    |
| Rockwell Hardness                                  | 105   | -                 | ASTM D 785    |
| Izod Impact notched, 1/8 in                        | 370   | J/m               | ASTM D 256    |
| Izod Impact notched, Low-Temperature               | 60    | J/m               | ASTM D 256    |
| Temperature  | -40   | °C                | -             |
| Izod Impact unnotched, 1/8 in                      | N     | J/m               | ASTM D 256    |
| <b>Thermal properties</b>                          |       |                   |               |
| <b>ISO Data</b>                                    |       |                   |               |
| Temp. of deflection under load, 1.80 MPa           | 66    | °C                | ISO 75-1/-2   |
| Temp. of deflection under load, 0.45 MPa           | 73    | °C                | ISO 75-1/-2   |
| <b>ASTM Data</b>                                   |       |                   |               |
| DTUL @ 66 psi                                      | 73    | °C                | ASTM D 648    |
| DTUL @ 264 psi                                     | 65    | °C                | ASTM D 648    |
| <b>Optical properties</b>                          |       |                   |               |
| <b>ASTM Data</b>                                   |       |                   |               |
| Haze   | 0.3   | %                 | ASTM D 1003   |
| Light Transmittance                                | 91    | %                 | ASTM D 1003   |
| <b>Other properties</b>                            |       |                   |               |
| Density  | 1190  | kg/m <sup>3</sup> | ISO 1183      |
| Density  | 1200  | kg/m <sup>3</sup> | ASTM D 792    |
| <b>Processing Recommendation Injection Molding</b> |       |                   |               |
| Pre-drying - Temperature                           | 70    | °C                | -             |

|                   |                  |    |   |
|-------------------|------------------|----|---|
| Pre-drying - Time | <b>3</b>         | h  | - |
| Melt temperature  | <b>250 - 290</b> | °C | - |
| Mold temperature  | <b>15 - 30</b>   | °C | - |

**Characteristics****Processing**

Injection Molding

**Delivery form**

Natural Color

**Additives**

Release agent

**Special Characteristics**

Transparent, Sterilizable, Ethylene Oxide (EtO) Sterilization, Gamma irradiation sterilization

**Features**

Color Stability

**Chemical Resistance**

General Chemical Resistance, Solvent Resistance, Radiation Resistance

**Certifications**

Food contact, Food approval FDA 21 CFR, Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

**Applications**

Medical

**Regional Availability**

North America, Europe, Near East/Africa