

## Eastman DuraStar MN611 Polymer, Natural

Category : Polymer , Thermoplastic , Polyester, TP , Polycyclohexylenedimethylene Terephthalate (PCT) , Glycol-Modified PCT (PCTG) Copolyester

### Material Notes:

Durastar Polymer MN611 contains a mold release. It has excellent appearance and is nearly water-clear. Its most outstanding features are toughness, chemical resistance, and excellent processing characteristics. MN611 has very good toughness. Applications/Uses Medical

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Eastman-DuraStar-MN611-Polymer-Natural.php](http://www.lookpolymers.com/polymer_Eastman-DuraStar-MN611-Polymer-Natural.php)

| Physical Properties   | Metric                | English               | Comments  |
|-----------------------|-----------------------|-----------------------|-----------|
| Specific Gravity      | 1.20 g/cc             | 1.20 g/cc             | ASTM D792 |
| Linear Mold Shrinkage | 0.0020 - 0.0060 cm/cm | 0.0020 - 0.0060 in/in | ASTM D955 |
|                       | @Thickness 3.20 mm    | @Thickness 0.126 in   |           |

| Mechanical Properties     | Metric                | English               | Comments  |
|---------------------------|-----------------------|-----------------------|-----------|
| Hardness, Rockwell R      | 103                   | 103                   | ASTM D785 |
| Tensile Strength at Break | 46.0 MPa              | 6670 psi              | ISO 527   |
|                           | 51.0 MPa              | 7400 psi              | ASTM D638 |
| Tensile Strength, Yield   | 47.0 MPa              | 6820 psi              | ASTM D638 |
|                           | 47.0 MPa              | 6820 psi              | ISO 527   |
| Elongation at Break       | 200 %                 | 200 %                 | ISO 527   |
|                           | 300 %                 | 300 %                 | ASTM D638 |
| Elongation at Yield       | 4.0 %                 | 4.0 %                 | ISO 527   |
|                           | 5.0 %                 | 5.0 %                 | ASTM D638 |
| Tensile Modulus           | 1.80 GPa              | 261 ksi               | ISO 527   |
| Flexural Strength         | 65.0 MPa              | 9430 psi              | ISO 178   |
| Flexural Yield Strength   | 69.0 MPa              | 10000 psi             | ASTM D790 |
| Flexural Modulus          | 1.85 GPa              | 268 ksi               | ISO 178   |
|                           | 2.00 GPa              | 290 ksi               | ASTM D790 |
| Izod Impact, Notched      | 0.400 J/cm            | 0.749 ft-lb/in        | ASTM D256 |
|                           | @Temperature -40.0 °C | @Temperature -40.0 °F |           |
|                           | 0.800 J/cm            | 1.50 ft-lb/in         |           |

| Mechanical Properties      | Metric<br>@ Temperature 23.0 °C                 | English<br>@ Temperature 73.4 °F                    | ASTM D256<br>Comments                              |
|----------------------------|-------------------------------------------------|-----------------------------------------------------|----------------------------------------------------|
| Izod Impact, Unnotched     | NB                                              | NB                                                  | ASTM D4812                                         |
|                            | NB<br>@Temperature -40.0 °C                     | NB<br>@Temperature -40.0 °F                         | ASTM D4812                                         |
| Izod Impact, Notched (ISO) | 4.80 kJ/m <sup>2</sup><br>@Temperature -40.0 °C | 2.28 ft-lb/in <sup>2</sup><br>@Temperature -40.0 °F | ISO 180                                            |
|                            | 7.80 kJ/m <sup>2</sup><br>@Temperature 23.0 °C  | 3.71 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F  | ISO 180                                            |
| Puncture Energy            | 42.0 J                                          | 31.0 ft-lb                                          | Puncture Resistance @Max Load,<br>23°C; ASTM D3763 |
|                            | 48.0 J<br>@Temperature -40.0 °C                 | 35.4 ft-lb<br>@Temperature -40.0 °F                 | Puncture Resistance at Max Load;<br>ASTM D3763     |

| Thermal Properties                             | Metric  | English | Comments  |
|------------------------------------------------|---------|---------|-----------|
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 74.0 °C | 165 °F  | ASTM D648 |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 65.0 °C | 149 °F  | ASTM D648 |

| Optical Properties    | Metric | English | Comments                          |
|-----------------------|--------|---------|-----------------------------------|
| Haze                  | 0.30 % | 0.30 %  | ASTM D1003                        |
| Transmission, Visible | 89 %   | 89 %    | Regular Transmittance; ASTM D1003 |
|                       | 91 %   | 91 %    | Total Transmittance; ASTM D1003   |

| Processing Properties | Metric         | English       | Comments |
|-----------------------|----------------|---------------|----------|
| Melt Temperature      | 232 - 277 °C   | 450 - 531 °F  |          |
| Mold Temperature      | 16.0 - 38.0 °C | 60.8 - 100 °F |          |
| Drying Temperature    | 71.0 °C        | 160 °F        |          |
| Dry Time              | 3 - 4 hour     | 3 - 4 hour    |          |

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