

## Eastman Eastar 5445 PCTG Copolyester, Injection Molded (discontinued \*\*)

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

### Material Notes:

Eastar PCTG 5445 is an amorphous copolyester. Because of its clarity, toughness and good melt strength, Eastar PCTG Copolyester 5445 is useful in a number of applications. It has high gloss and is transparent. It is tough and resistant to stress whitening. It has fast forming cycles and is easy to form. Eastar PCTG Copolyester 5445 is sterilizable by both gamma radiation and ethylene oxide (ETO) methods. Its scrap can be reused. Applications/Uses Bags Credit cards Gaming cards Identification cards Plastic Cards Rigid medical Blister packaging Debit cards Gift cards Phone cards Rapid deployment flood walls Smart cards

Key Attributes Excellent clarity Effective barrier properties Excellent colorability Good stiffness Sterilizable with ethylene oxide, electron beam, and gamma rays

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Eastman-Eastar-5445-PCTG-Copolyester-Injection-Molded-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Eastman-Eastar-5445-PCTG-Copolyester-Injection-Molded-nbspdiscontinued-.php)

| Physical Properties | Metric                           | English                                          | Comments   |
|---------------------|----------------------------------|--------------------------------------------------|------------|
| Specific Gravity    | 1.23 g/cc                        | 1.23 g/cc                                        | ASTM D792  |
| Melt Density        | 1.08 g/cc<br>@Temperature 285 °C | 0.0390 lb/in <sup>3</sup><br>@Temperature 545 °F | ASTM D1238 |

| Mechanical Properties     | Metric                              | English                                | Comments                                        |
|---------------------------|-------------------------------------|----------------------------------------|-------------------------------------------------|
| Hardness, Rockwell R      | 103                                 | 103                                    | ASTM D785                                       |
| Tensile Strength at Break | 52.0 MPa                            | 7540 psi                               | ASTM D638                                       |
| Tensile Strength, Yield   | 45.0 MPa                            | 6530 psi                               | ASTM D638                                       |
| Elongation at Break       | 340 %                               | 340 %                                  | ASTM D638                                       |
| Flexural Strength         | 66.0 MPa                            | 9570 psi                               | ASTM D790                                       |
| Flexural Modulus          | 1.80 GPa                            | 261 ksi                                | ASTM D790                                       |
| Izod Impact, Notched      | 0.750 J/cm<br>@Temperature -40.0 °C | 1.41 ft-lb/in<br>@Temperature -40.0 °F | ASTM D256                                       |
|                           | NB<br>@Temperature 23.0 °C          | NB<br>@Temperature 73.4 °F             | ASTM D256                                       |
| Izod Impact, Unnotched    | NB                                  | NB                                     | ASTM D4812                                      |
|                           | NB<br>@Temperature -40.0 °C         | NB<br>@Temperature -40.0 °F            | ASTM D4812                                      |
| Puncture Energy           | 42.0 J                              | 31.0 ft-lb                             | Puncture Resistance @Max Load, 23°C; ASTM D3763 |

| Mechanical Properties | Metric                | English <sup>lb</sup> | Comments                                       |
|-----------------------|-----------------------|-----------------------|------------------------------------------------|
|                       | @Temperature -40.0 °C | @Temperature -40.0 °F | Puncture Resistance at Max Load;<br>ASTM D3763 |

| Thermal Properties                          | Metric                               | English                                 | Comments             |
|---------------------------------------------|--------------------------------------|-----------------------------------------|----------------------|
| CTE, linear                                 | 75.0 µm/m-°C<br>@Temperature 20.0 °C | 41.7 µin/in-°F<br>@Temperature 68.0 °F  | ASTM D696            |
| Specific Heat Capacity                      | 1.09 J/g-°C<br>@Temperature 10.0 °C  | 0.261 BTU/lb-°F<br>@Temperature 50.0 °F | DSC                  |
|                                             | 1.14 J/g-°C<br>@Temperature 30.0 °C  | 0.272 BTU/lb-°F<br>@Temperature 86.0 °F | DSC                  |
|                                             | 1.64 J/g-°C<br>@Temperature 100 °C   | 0.392 BTU/lb-°F<br>@Temperature 212 °F  | DSC                  |
|                                             | 1.86 J/g-°C<br>@Temperature 180 °C   | 0.445 BTU/lb-°F<br>@Temperature 356 °F  | DSC                  |
|                                             | 2.16 J/g-°C<br>@Temperature 290 °C   | 0.516 BTU/lb-°F<br>@Temperature 554 °F  | DSC                  |
| Thermal Conductivity                        | 0.220 W/m-K                          | 1.53 BTU-in/hr-ft²-°F                   | ASTM C177            |
| Deflection Temperature at 0.46 MPa (66 psi) | 74.0 °C                              | 165 °F                                  | ASTM D648            |
| Deflection Temperature at 1.8 MPa (264 psi) | 65.0 °C                              | 149 °F                                  | ASTM D648            |
| Vicat Softening Point                       | 86.0 °C                              | 187 °F                                  | 1kg load; ASTM D1525 |
| Glass Transition Temp, Tg                   | 87.0 °C                              | 189 °F                                  | ASTM D1525           |

| Optical Properties    | Metric | English | Comments                              |
|-----------------------|--------|---------|---------------------------------------|
| Transmission, Visible | 90 %   | 90 %    | transparent; thickness not quantified |

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