

PolyOne Versaflex™ CL2000X Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer, TPE

Material Notes:

Versaflex™ CL2000X is an ultra-soft TPE designed for use in injection molding applications where exceptional clarity and an extremely soft feel are desired. - Tactile Feel - Ultra-Soft - Water ClarityColor concentrates with Versaflex™ CL2000X as the carrier are most suitable for coloring this product. If a CL2000X color concentrate carrier is desired, it is important that the chosen color house have underwater pelletization capabilities. Typical loadings for color concentrates are 1% to 5% by weight. Liquid color (pigment, not dye) can be used; white oil carriers are recommended. A high color match consistency can be obtained by using precolored compounds available from GLS.

Polypropylene (PP) based color concentrates are not recommended because they lead to poor dispersion and can significantly change the hardness of the material. Concentrates based on PVC should not be used. The final determination of color concentrate suitability should be determined by customer trials. Purge thoroughly before and after use of this product with a low flow (0.5 - 2.5 MFR) polyethylene (PE) or polypropylene (PP). Regrind levels up to 20% can be used with Versaflex™ CL2000X with minimal property loss, provided that the regrind is free of contamination. To minimize losses during molding, the melt temperature should remain as low as possible. The final determination of regrind effectiveness should be determined by the customer. Drying is not Required Injection Speed: 0.5 to 2 in/sec 1st Stage - Boost

Pressure: 100 to 400 psi 2nd Stage - Hold Pressure: 30% of Boost Hold Time (Thick Part): 2 to 10 sec Hold Time (Thin Part): 1 to 3

secInformation provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Versaflex-CL2000X-Thermoplastic-Elastomer-TPE.php

| Physical Properties | Metric | English | Comments |
|-----------------------------|---|---|------------|
| Specific Gravity | 0.868 g/cc | 0.868 g/cc | ASTM D792 |
| Viscosity | 2200 cP | 2200 cP | ASTM D3835 |
| | @Shear Rate 11200 1/s, Temperature 200 °C | @Shear Rate 11200 1/s, Temperature 392 °F | |
| Linear Mold Shrinkage, Flow | 0.036 - 0.040 cm/cm | 0.036 - 0.040 in/in | ASTM D955 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|------------------------------------|------------------------------------|----------------------|
| Hardness, Shore A | 3.0 | 3.0 | 10 sec; ASTM D2240 |
| Tensile Strength at Break | 2.07 MPa | 300 psi | Die C2 hr; ASTM D412 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Tensile Stress | 0.103 MPa | 14.9 psi | Die C2 hr; ASTM D412 |
| | @Strain 100 %, Temperature 23.0 °C | @Strain 100 %, Temperature 73.4 °F | |
| | 0.241 MPa | 35.0 psi | Die C2 hr; ASTM D412 |
| | @Strain 300 %, Temperature 23.0 °C | @Strain 300 %, Temperature 73.4 °F | |

| Mechanical Properties Elongation at Break | 1100 % Metric | 1100 % English | Comments Die C210, ASTM D412 |
|--|---|---|---------------------------------|
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Tear Strength | 8.76 kN/m | 50.0 pli | ASTM D624 |
| Compression Set | 23 % @Temperature 23.0 °C, Time 79200 sec | 23 % @Temperature 73.4 °F, Time 22.0 hour | ASTM D395B |

| Processing Properties | Metric | English | Comments |
|---------------------------|-------------------|------------------|----------|
| Rear Barrel Temperature | 116 - 149 °C | 241 - 300 °F | |
| Middle Barrel Temperature | 138 - 182 °C | 280 - 360 °F | |
| Front Barrel Temperature | 154 - 188 °C | 309 - 370 °F | |
| Nozzle Temperature | 160 - 193 °C | 320 - 379 °F | |
| Mold Temperature | 12.8 - 32.2 °C | 55.0 - 90.0 °F | |
| Back Pressure | 0.000 - 0.552 MPa | 0.000 - 80.1 psi | |
| Screw Speed | 15 - 75 rpm | 15 - 75 rpm | |

| Descriptive Properties | Value | Comments |
|-------------------------|-------------------------------|----------|
| Agency Ratings | FDA Unspecified Rating | |
| Appearance | Clear/Transparent | |
| Features | High Clarity | |
| | Soft | |
| Forms | Pellets | |
| Generic Material | TPE | |
| Generic Name | Thermoplastic Elastomer (TPE) | |
| Manufacturer / Supplier | GLS Thermoplastic Elastomers | |
| Processing Method | Injection Molding | |
| Regional Availability | Africa & Middle East | |
| | Asia Pacific | |
| | Europe | |
| | North America | |

| Descriptive Properties | South America Value | Comments |
|------------------------|----------------------------------|----------|
| RoHS Compliance | RoHS Compliant | |
| Suggested Max Regrind | 20% | |
| Uses | Artificial Skin | |
| | Consumer Applications | |
| | Personal Care | |
| | Soft Touch Applications | |
| | Toys | |
| | Transparent or Translucent Parts | |

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