



Versaflex™ CE 3115

Thermoplastic Elastomer

Key Characteristics

Product Description

Versaflex™ CE 3115 is targeted for consumer electronics applications where excellent abrasion resistance, chemical resistance and silky feel are required.

Versaflex™ CE 3115 can also overmold to a variety of substrates including PC, ABS, PC/ABS, and Copolyester.

General

| | | | |
|-----------------------|--|--|---|
| Material Status | • Commercial: Active | | |
| Regional Availability | • Africa & Middle East • Asia Pacific | • Latin America • North America | |
| Features | • Good Abrasion Resistance • Good Chemical Resistance • Good Colorability | • Good Processability • Good UV Resistance • Low Friction | • Pleasing Surface Appearance |
| Uses | • Appliances • Communication Applications • Computer Components • Consumer Applications | • Electrical/Electronic Applications • Flexible Grips • Overmolding • Soft Touch Applications | • Thick-walled Parts • Thin-walled Parts |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

Technical Properties ¹

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|-------------------------|--------------------|-------------|
| Specific Gravity | 1.17 | 1.17 | ASTM D792 |
| Melt Mass-Flow Rate (MFR) | | | ASTM D1238 |
| 190°C/2.16 kg | 1.0 to 12 g/10 min | 1.0 to 12 g/10 min | |
| 200°C/5.0 kg | 15 to 25 g/10 min | 15 to 25 g/10 min | |
| Molding Shrinkage - Flow (380°F (193°C)) | 9.0E-3 to 0.015 in/in | 0.90 to 1.5 % | ASTM D955 |
| Elastomers | Typical Value (English) | Typical Value (SI) | Test Method |
| Tensile Stress ^{2, 3} (100% Strain, 73°F (23°C)) | 445 psi | 3.07 MPa | ASTM D412 |
| Tensile Stress ^{2, 3} (300% Strain, 73°F (23°C)) | 740 psi | 5.10 MPa | ASTM D412 |
| Tensile Strength ^{2, 3} (Break, 73°F (23°C)) | 2200 psi | 15.2 MPa | ASTM D412 |
| Tensile Elongation ^{2, 3} (Break, 73°F (23°C)) | 640 % | 640 % | ASTM D412 |
| Tear Strength ^{2, 3} (73°F (23°C)) | 300 lbf/in | 52.5 kN/m | ASTM D624 |
| Compression Set ⁴ (73°F (23°C), 22 hr) | 24 % | 24 % | ASTM D395 |
| Hardness | Typical Value (English) | Typical Value (SI) | Test Method |
| Durometer Hardness (Shore A, 10 sec) | 65 | 65 | ASTM D2240 |
| Flammability | Typical Value (English) | Typical Value (SI) | Test Method |
| Flame Rating | | | UL 94 |
| 0.0591 to 0.512 in (1.50 to 13.0 mm), All Colors | HB | HB | |
| Fill Analysis | Typical Value (English) | Typical Value (SI) | Test Method |
| Apparent Viscosity | | | ASTM D3835 |
| 392°F (200°C), 11200 sec ⁻¹ | 16.0 Pa·s | 16.0 Pa·s | |

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| Additional Information | Typical Value (English) | Typical Value (SI) | Test Method |
|--|-------------------------|--------------------|-------------|
| Mass Loss - 500 Cycle Abrasion Resistance ⁵ (73°F (23°C)) | 2.0 mg | 2.0 mg | ASTM D3389 |

Processing Information

| Injection | Typical Value (English) | Typical Value (SI) |
|------------------------|-------------------------|--------------------|
| Drying Temperature | 125 to 140 °F | 51.7 to 60.0 °C |
| Drying Time | 3.0 to 4.0 hr | 3.0 to 4.0 hr |
| Suggested Max Moisture | < 0.030 % | < 0.030 % |
| Suggested Max Regrind | 20 % | 20 % |
| Rear Temperature | 340 to 360 °F | 171 to 182 °C |
| Middle Temperature | 360 to 410 °F | 182 to 210 °C |
| Front Temperature | 370 to 420 °F | 188 to 216 °C |
| Nozzle Temperature | 380 to 430 °F | 193 to 221 °C |
| Processing (Melt) Temp | 380 to 425 °F | 193 to 218 °C |
| Mold Temperature | 55.0 to 85.0 °F | 12.8 to 29.4 °C |
| Back Pressure | 0.00 to 50.0 psi | 0.00 to 0.345 MPa |
| Screw Speed | 50 to 100 rpm | 50 to 100 rpm |

Injection Notes

Typical colorant letdown ratios are 50:1 to 25:1 - loading levels should be as low as possible to minimize the effect on adhesion. A high color match consistency can be obtained by the use of precolored compounds available from GLS. Concentrates based on PVC should not be used. The final determination of color concentrate suitability should be determined by customer trials. Contact GLS for more information on appropriate color concentrate base resins.

Purge thoroughly before and after use of this product with a low flow (0.5 - 2.5 MFR) polyethylene (PE) or polypropylene (PP).

Versaflex™ CE 3115 should not be left in the barrel for extended idle periods (greater than 5 minutes).

Suggested Dewpoint: -40°F

Injection Speed: 0.5 to 2 in/sec
 1st Stage - Boost Pressure: 500 to 1,000 psi
 2nd Stage - Hold Pressure: 20-60% of Boost
 Hold Time (Thick Part): 2 to 4 sec
 Hold Time (Thin Part): 1 to 2 sec

Notes

¹ Typical values are not to be construed as specifications.

² Die C

³ 2 hr

⁴ 25% deflection

⁵ Abrasion wheel: H-18
 Mass Lost

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