# Versalloy™ XL 9070-1

## Thermoplastic Elastomer

## Key Characteristics

| Product Description | | | |
|---|---|---|---|
| Versalloy™ XL 9070-1 is a TPV alloy with exceptional flow properties and surface aesthetics for a variety of applications.<br>• Excellent Flow for Long, Thin Flow Paths<br>• Exceptional Colorability<br>• Overmold Adhesion to Polypropylene<br>• Superior Surface Aesthetics | | | |
| **General** | | | |
| Material Status | • Commercial: Active | | |
| Regional Availability | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• North America | • South America |
| Features | • Good Colorability<br>• Good Flow | • Good Surface Finish<br>• Recyclable Material | |
| Uses | • Consumer Applications<br>• Overmolding | • Soft Touch Applications<br>• Thin-walled Parts | |
| Agency Ratings | • FDA 21 CFR 177.1210 [1] | | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

## Technical Properties [2]

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Specific Gravity | 0.890 | 0.888 g/cm³ | ASTM D792 |
| **Elastomers** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Tensile Stress [3, 4] | | | ASTM D412 |
| 100% Strain, 70°F (21°C) | 360 psi | 2.48 MPa | |
| 300% Strain, 73°F (23°C) | 512 psi | 3.53 MPa | |
| Tensile Strength [3, 4] (Break, 73°F (23°C)) | 788 psi | 5.43 MPa | ASTM D412 |
| Tensile Elongation [3, 4] (Break, 73°F (23°C)) | 580 % | 580 % | ASTM D412 |
| Tear Strength | 180 lbf/in | 31.5 kN/m | ASTM D624 |
| Compression Set | | | ASTM D395B |
| 73°F (23°C), 22.0 hr | 23 % | 23 % | |
| 158°F (70°C), 22.0 hr | 42 % | 42 % | |
| 212°F (100°C), 22.0 hr | 53 % | 53 % | |
| **Hardness** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Durometer Hardness (Shore A, 10 sec) | 70 | 70 | ASTM D2240 |
| **Fill Analysis** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Apparent Viscosity | | | ASTM D3835 |
| 392°F (200°C), 11200 sec^-1 | 5.80 Pa·s | 5.80 Pa·s | |

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## Additional Information

Versalloy™ XL 9070-1 can be recycled as a filler or impact modifier for polyolefins, or can be recycled by grinding and reintroduction to the molding process. Similar to PP or PE recycling process, if separated appropriately, it can be recycled many times.

Municipality waste stream recycle code is "7" which is designated for "Other".

Please contact GLS Thermoplastic Elastomers for a copy of our Recyclability Compliance letter.

## Processing Information

| Injection | Typical Value (English) | Typical Value (SI) |
|---|---|---|
| Suggested Max Regrind | 20 % | 20 % |
| Rear Temperature | 300 to 370 °F | 149 to 188 °C |
| Middle Temperature | 320 to 390 °F | 160 to 199 °C |
| Front Temperature | 340 to 410 °F | 171 to 210 °C |
| Nozzle Temperature | 340 to 410 °F | 171 to 210 °C |
| Mold Temperature | 60.0 to 80.0 °F | 15.6 to 26.7 °C |
| Back Pressure | 0.00 to 100 psi | 0.00 to 0.689 MPa |
| Screw Speed | 50 to 100 rpm | 50 to 100 rpm |

## Injection Notes

Color concentrates with polypropylene (PP) carrier are most suitable for coloring Versalloy™ XL 9070-1. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40 g/10 min). Typical loadings for color concentrates are 1% to 5% by weight. 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 Versalloy™ XL 9070-1 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.

Versalloy™ XL 9070-1 has good melt stability. Empty the barrel for idle periods of fifteen (15) mintes or longer.

Drying is not Required

Injection Speed: 1 to 5 in/sec
1st Stage - Boost Pressure: 300 to 700 psi
2nd Stage - Hold Pressure: 30% of Boost
Hold Time (Thick Part): 4 to 10 sec
Hold Time (Thin Part): 1 to 3 sec

### Notes

[1] Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.

[2] Typical values are not to be construed as specifications.

[3] Die C

[4] 2 hr

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