Zytel® 70G30HSLR BK099 NYLON RESIN

DuPont Performance Polymers

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Technical Data

Product Description

| 30% Glass Reinforced, Heat Stabiliz | | | |
|-------------------------------------|---|---|---------------|
| General | | | |
| Material Status | Commercial: Active | | |
| Literature ¹ | o , | ding (English) ding of Glass-reinforced Zytel (E Pont Engineering Polymers (Eng | U |
| UL Yellow Card ² | • E41938-234406 | | |
| Search for UL Yellow Card | DuPont Performance Poly Zytel® | imers | |
| Availability | Africa & Middle East Asia Pacific | EuropeLatin America | North America |
| Filler / Reinforcement | Glass Fiber, 30% Filler by | Weight | |
| Additive | Heat Stabilizer | | |
| Features | Heat Stabilized | Hydrolysis Resistant | |
| RoHS Compliance | Contact Manufacturer | | |
| Processing Method | Injection Molding | | |
| Multi-Point Data | Shear Modulus vs. Tempe Shear Stress vs. Shear R Specific Volume vs Tempe Tensile Modulus vs. Temp Viscosity vs. Shear Rate (| ate (ISÒ 11403-1) erature (ISO 11403-2) erature, Dynamic (ISO 11403-1) |) |
| Part Marking Code (ISO 11469) | • >PA66-GF30< | | |
| Resin ID (ISO 1043) | • PA66-GF30 | | |
| , , | | | |

| Physical | Dry | Conditioned | Unit | Test Method |
|----------------------------------|--------------------|-------------------|----------------------|-------------|
| Density | 1.37 | | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow | 1.0 | | % | |
| Flow | 0.30 | | % | |
| /lechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus | 1.45E+6 (10000) | 1.02E+6 (7000) | psi (MPa) | ISO 527-2 |
| Tensile Stress (Break) | 29000 (200) | 18900 (130) | psi (MPa) | ISO 527-2 |
| Tensile Strain (Break) | 3.0 | 5.0 | % | ISO 527-2 |
| Flexural Modulus | | 943000 (6500) | psi (MPa) | ISO 178 |
| npact | Dry | Conditioned | Unit | Test Method |
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -22°F (-30°C) | 4.3 (9.0) | 4.3 (9.0) | ft·lb/in² (kJ/m²) | |
| 73°F (23°C) | 5.7 (12) | 6.7 (14) | ft·lb/in² (kJ/m²) | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -22°F (-30°C) | 33 (70) | 33 (70) | ft·lb/in² (kJ/m²) | |
| 73°F (23°C) | 38 (80) | 43 (90) | ft·lb/in² (kJ/m²) | |

¹ of 3

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| Notched Izod Impact Strength (73°F (23°C)) $\begin{array}{c} 4.8 \\ (10) \end{array} \begin{array}{c} 5.7 \\ (12) \end{array} \begin{array}{c} \text{ft} \cdot \text{lb/in}^2 \\ (\text{kJ/m}^2) \end{array} \text{ISO 180/1A} \end{array}$ | Impact | Dry | Conditioned | Unit | Test Method |
|---|---|--------|-------------|-----------|-------------|
| Heat Deflection Temperature502 (261)(°C) (°C)ISO 75-2/B264 psi (1.8 MPa), Unannealed487 (253)(°C)ISO 75-2/AMelting Temperature 4504 (262)(°C)ISO 11357-3ElectricalDryConditionedUnitTest MethodComparative Tracking Index (CTI)PLC 1 (24)VIEC 60112ElemmabilityDryConditionedUnitTest MethodBurning Rate 5 (0.0394 in (1.00 mm))0.94 (24)in/min (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HB 2VISO 4589-2Fogging - G-value (condensate)6.0E-49ISO 4552Additional InformationDryConditionedUnitTest MethodDryConditionedUL 94 1EC 60055-11-10 -20SO 4552Additional InformationDryConditionedUnitTest MethodDryConditionedUL 94 1EC 60055-11-10 -200.0591 in (1.50 mm)HB0.591 in (1.50 mm)Flame9150 6452Fogging - G-value (condensate)6.0E-49Kod 420VD 4277 | • | 4.8 | 5.7 | ft·lb/in² | |
| 66 psi (0.45 MPa), Unannealed502 (261)°F (°C)ISO 75-2/B264 psi (1.8 MPa), Unannealed487 (253)°F (°C)ISO 11357-3Melting Temperature 4504 (262)°F (°C)ISO 11357-3ElectricalDryConditionedUnitTest MethodComparative Tracking Index (CTI)PLC 1UL 746Comparative Tracking Index (CTI)DryConditionedUnitTest MethodBurning Rate 5 (0.0394 in (1.00 mm))0.94 (24)imminin (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HBUL 94 IEC 60695-11-10UL 94 IEC 60695-11-10Oxygen Index24%ISO 4589-2Fogging - G-value (condensate)6.0E-49ISO 6452Additional InformationDryConditionedUnitTest Method IEC 60695-11-10Emission of Organic Compounds10.0%ISO 4589-2 | Thermal | Dry | Conditioned | Unit | Test Method |
| bit De psi (0.45 MPa), Unannealed(261)(°C)ISO 75-2/B264 psi (1.8 MPa), Unannealed487 (253)(°C)ISO 75-2/AMelting Temperature 4504 (262)(°C)ISO 11357-3ElectricalDryConditionedUnitTest MethodComparative Tracking Index (CTI)PLC 1UL 746Comparative Tracking Index400VIEC 60112ElectricalDryConditionedUnitTest MethodComparative Tracking Index400VIEC 60112ElemmabilityDryConditionedUnitTest MethodBurning Rate ⁵ (0.0394 in (1.00 mm))0.94 (24)in/min in/minISO 3795Flame Rating 0.0295 in (0.750 mm)HBVIEC 60055-11-10 -200.0591 in (1.50 mm)HB9ISO 4589-2Fogging - G-value (condensate)6.0E-49ISO 4589-2Fogging - G-value (condensate)DryConditionedUnitTest MethodAdditional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.04/9C/gVDA 277 | Heat Deflection Temperature | | | | |
| 264 psi (1.8 MPa), Unannealed(253)(°C)ISO 75-2/AMelting Temperature 4504 (262)(°C)ISO 11357-3ElectricalDryConditionedUnitTest MethodComparative Tracking Index (CTI)PLC 1UL 746Comparative Tracking Index400VIEC 60112ElectricalDryConditionedUnitTest MethodComparative Tracking Index400VIEC 60112ElemmabilityDryConditionedUnitTest MethodBurning Rate 5 (0.0394 in (1.00 mm))0.94 (24)in/min (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HB20UL 94 IEC 60695-11-100.0591 in (1.50 mm)HB9ISO 4589-2Fogging - G-value (condensate)6.0E-49ISO 4589-2Kdditional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0\mugC/gVDA 277 | 66 psi (0.45 MPa), Unannealed | | | | ISO 75-2/B |
| Melting Temperature *(262)(°C)ISO 11357-3ElectricalDryConditionedUnitTest MethodComparative Tracking Index (CTI)PLC 1UL 746Comparative Tracking Index400VIEC 60112Comparative Tracking Index0.94VIEC 60112ElemmabilityDryConditionedUnitTest MethodBurning Rate ⁵ (0.0394 in (1.00 mm))0.94in/min (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HBUL 940.0591 in (1.50 mm)HB20Oxygen Index24%ISO 4589-2Fogging - G-value (condensate)6.0E-49ISO 6452Additional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0 $\mu gC/g$ VDA 277 | 264 psi (1.8 MPa), Unannealed | | | | ISO 75-2/A |
| Comparative Tracking Index (CTI)PLC 1UL 746Comparative Tracking Index400VIEC 60112Comparative Tracking IndexDryConditionedUnitTest MethodBurning Rate ⁵ (0.0394 in (1.00 mm))0.94 (24)in/min (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HBUL 94 IEC 60695-11-10 -20UL 94 IEC 60695-11-10 -200.0591 in (1.50 mm)HB%ISO 4589-2Oxygen Index24%ISO 4589-2Fogging - G-value (condensate)6.0E-4gISO 6452Additional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0µgC/gVDA 277 | Melting Temperature ⁴ | | | | ISO 11357-3 |
| Comparative Tracking Index400VIEC 60112Iso arrowDryConditionedUnitTest MethodBurning Rate ⁵ (0.0394 in (1.00 mm))0.94 (24)in/min (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HBUL 94 IEC 60695-11-10 -20IEC 60695-11-10 -200.0591 in (1.50 mm)HBVISO 4589-2Fogging - G-value (condensate)6.0E-49ISO 6452Additional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0 $\mu g C/g$ VDA 277 | Electrical | Dry | Conditioned | Unit | Test Method |
| Comparative fracking index400IEC 60112Item abilityDryConditionedUnitTest MethodBurning Rate ⁵ (0.0394 in (1.00 mm))0.94 (24)in/min (mm/min)ISO 3795Flame Rating 0.0295 in (0.750 mm)HBUL 94 IEC 60695-11-10 -20UL 94 IEC 60695-11-10 -200.0591 in (1.50 mm)HBVIII 94 IEC 60695-11-10 -200.0591 in (1.50 mm)HB0xygen Index24%ISO 4589-2Fogging - G-value (condensate)6.0E-4gISO 6452vdditional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0 μ gC/gVDA 277 | Comparative Tracking Index (CTI) | PLC 1 | | | UL 746 |
| Burning Rate ⁵ (0.0394 in (1.00 mm)) 0.94 (24) in/min (mm/min) ISO 3795 Flame Rating 0.0295 in (0.750 mm) HB | Comparative Tracking Index | 400 | | V | IEC 60112 |
| Burning Rate * (0.0394 in (1.00 mm)) (24) (mm/min) ISO 3795 Flame Rating UL 94 IEC 60695-11-10 IEC 60695-11 IEC 60695-10 IEC 60695-10 IEC 60695-10 IEC 60695-10 IEC | lammability | Dry | Conditioned | Unit | Test Method |
| Discretion HB IEC 60695-11-10 0.0295 in (0.750 mm) HB -20 0.0591 in (1.50 mm) HB -20 Oxygen Index 24 % ISO 4589-2 Fogging - G-value (condensate) 6.0E-4 9 ISO 6452 Additional Information Dry Conditioned Unit Test Method Emission of Organic Compounds 10.0 Image: Page 100 mit of the second seco | Burning Rate ⁵ (0.0394 in (1.00 mm)) | | | | ISO 3795 |
| 0.0295 in (0.750 mm)HB200.0591 in (1.50 mm)HBOxygen Index24Source Index6.0E-4Fogging - G-value (condensate)6.0E-4Additional InformationDryConditionedEmission of Organic Compounds10.0HB402 conditioned | Flame Rating | | | | |
| Oxygen Index24%ISO 4589-2Fogging - G-value (condensate)6.0E-4gISO 6452Additional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0 μ gC/gVDA 277 | 0.0295 in (0.750 mm) | HB | | | |
| Oxygen Index24ISO 4589-2Fogging - G-value (condensate)6.0E-4gISO 6452Additional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0 μ gC/gVDA 277 | 0.0591 in (1.50 mm) | HB | | | |
| Indext and condensate)DryConditionedUnitTest MethodAdditional InformationDryConditionedUnitTest MethodEmission of Organic Compounds10.0 $\mu gC/g$ VDA 277 | Oxygen Index | 24 | | % | ISO 4589-2 |
| Emission of Organic Compounds 10.0 µgC/g VDA 277 | Fogging - G-value (condensate) | 6.0E-4 | | g | ISO 6452 |
| | Additional Information | Dry | Conditioned | Unit | Test Method |
| Odor 5.00 VDA 270 | Emission of Organic Compounds | 10.0 | | µgC/g | VDA 277 |
| | Emission of Organic Compounds | | | | |

| njection | Dry (English) | Dry (SI) | |
|---------------------------|-------------------|-----------------|--|
| Drying Temperature | 176 °F | 80.0 °C | |
| Drying Time | 2.0 to 4.0 hr | 2.0 to 4.0 hr | |
| Suggested Max Moisture | 0.20 % | 0.20 % | |
| Processing (Melt) Temp | 545 to 581 °F | 285 to 305 °C | |
| Melt Temperature, Optimum | 563 °F | 295 °C | |
| Mold Temperature | 158 to 248 °F | 70.0 to 120 °C | |
| Mold Temperature, Optimum | 212 °F | 100 °C | |
| Holding Pressure | 7250 to 14500 psi | 50.0 to 100 MPa | |
| Drying Recommended | yes | yes | |
| Ejection Temperature | 410 °F | 210 °C | |
| Hold Pressure Time | 3.00 s/mm | 3.00 s/mm | |
| Screw Tangential Speed | 472 in/min | 200 mm/sec | |

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 10°C/min

⁵ FMVSS 302

2 of 3



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Where to Buy

Supplier

DuPont Performance Polymers Wilmington, DE USA Telephone: 302-999-4592 Web: http://plastics.dupont.com/

Distributor

Biesterfeld Plastic GmbH

Biesterfeld Plastic GmbH is a Pan European distribution company. Contact Biesterfeld Plastic GmbH for availability of individual products by country.

Telephone: +49-40-32008-0

Web: http://www.biesterfeld-plastic.com/

Availability: Algeria, Austria, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Croatia, Cyprus, Czech Republic, Egypt, France, Germany, Greece, Hungary, Italy, Libyan Arab Jamahiriya, Luxembourg, Mauritania, Morocco, Netherlands, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Switzerland, Tunisia, Turkey

CCC Plastics

Telephone: 800-465-6917 Web: http://www.cccplastics.com/ Availability: Canada

Distrupol Ltd

Distrupol Ltd is a Pan European distribution company. Contact Distrupol Ltd for availability of individual products by country. Telephone: 08452003040 Web: http://www.distrupol.com/ Availability: Denmark, Finland, Ireland, Norway, Sweden, United Kingdom

PolyOne Distribution

PolyOne Distribution is a global distribution company. Contact PolyOne Distribution for availability of individual products by country. Telephone: 800-894-4266 Web: http://polyonedistribution.com/ Availability: Global





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