

DSM Stanyl® TW200F6 Nylon 46-30% Glass Reinforced (European Grade) (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 46 , Nylon 46, Glass Fiber Reinforced

Material Notes:

Stanyl is a high performance polyamide providing good performance and value across a broad range of automotive and electronic applications. Stanyl offers: Highest mechanical properties at high temperatures Excellent resistance to wear and low friction Outstanding flow for easy processing and exceptional design freedom Stanyl High Flow grades that match the best flowing LCPs while maintaining a high level of mechanical properties Key Applications: Automotive: Powertrain components, Charge-air coolers, EPS and ETC gears, Motor Sensors, Auto connectors, Chain tensioners E&E: Connectors, Microswitches, Bobbins, Memory modules, Motor components, Industrial, Specialty films and fibers, Consumer appliances Information provided by DSM.

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Stanyl-TW200F6-Nylon-46-30-Glass-Reinforced-European-Grade-Dry.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|------------------------|---------------------------|-------------------------------------|
| Density | 1.41 g/cc | 0.0509 lb/in ³ | ISO 1183 |
| Water Absorption | 9.5 % | 9.5 % | Sim. to ISO 62 |
| Moisture Absorption at Equilibrium | 2.6 % | 2.6 % | Humidity Absorption; Sim. to ISO 62 |
| Viscosity Test | 145 cm ³ /g | 145 cm ³ /g | Viscosity Number |
| Linear Mold Shrinkage, Flow | 0.0050 cm/cm | 0.0050 in/in | ISO 294-4 |
| Linear Mold Shrinkage, Transverse | 0.013 cm/cm | 0.013 in/in | ISO 294-4 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|------------------------|----------------------------|--------------|
| Tensile Strength at Break | 210 MPa | 30500 psi | ISO 527-1/-2 |
| Elongation at Break | 4.0 % | 4.0 % | ISO 527-1/-2 |
| Tensile Modulus | 10.0 GPa | 1450 ksi | ISO 527-1/-2 |
| Charpy Impact Unnotched | 7.00 J/cm ² | 33.3 ft-lb/in ² | ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact Unnotched | 8.00 J/cm ² | 38.1 ft-lb/in ² | ISO 179/1eU |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Charpy Impact, Notched | 1.00 J/cm ² | 4.76 ft-lb/in ² | ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 1.20 J/cm ² | 5.71 ft-lb/in ² | ISO 179/1eA |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|---|--|--|--|
| CTE, linear, Parallel to Flow | 20.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 11.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | ISO 11359-1/-2 |
| | @Temperature 20.0 $^{\circ}\text{C}$ | @Temperature 68.0 $^{\circ}\text{F}$ | |
| CTE, linear, Transverse to Flow | 80.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 44.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | ISO 11359-1/-2 |
| | @Temperature 20.0 $^{\circ}\text{C}$ | @Temperature 68.0 $^{\circ}\text{F}$ | |
| Melting Point | 295 $^{\circ}\text{C}$ | 563 $^{\circ}\text{F}$ | 10 $^{\circ}\text{C}/\text{min}$; ISO 11357-1/-3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 290 $^{\circ}\text{C}$ | 554 $^{\circ}\text{F}$ | ISO 75-1/-2 |
| Deflection Temperature at 1.8 MPa (264 psi) | 290 $^{\circ}\text{C}$ | 554 $^{\circ}\text{F}$ | ISO 75-1/-2 |
| Vicat Softening Point | 290 $^{\circ}\text{C}$ | 554 $^{\circ}\text{F}$ | 50 $^{\circ}\text{C}/\text{h}$ 50N; ISO 306 |
| Glass Transition Temp, Tg | 75.0 $^{\circ}\text{C}$ | 167 $^{\circ}\text{F}$ | Glass Transition Temperature (10 $^{\circ}\text{C}/\text{min}$); ISO 11357-1/-2 |
| Flammability, UL94 | HB | HB | IEC 60695-11-10 |
| | @Thickness 0.900 mm | @Thickness 0.0354 in | |
| | HB | HB | IEC 60695-11-10 |
| | @Thickness 1.60 mm | @Thickness 0.0630 in | |
| Oxygen Index | 22 % | 22 % | ISO 4589-1/-2 |
| Glow Wire Test | 650 $^{\circ}\text{C}$ | 1200 $^{\circ}\text{F}$ | Glow Wire Flammability Index; IEC 60695-2-12 |
| | @Thickness 0.750 mm | @Thickness 0.0295 in | |
| | 700 $^{\circ}\text{C}$ | 1290 $^{\circ}\text{F}$ | Glow Wire Ignition Temperature; IEC 60695-2-13 |
| | @Thickness 0.750 mm | @Thickness 0.0295 in | |
| | 725 $^{\circ}\text{C}$ | 1340 $^{\circ}\text{F}$ | Glow Wire Ignition Temperature; IEC 60695-2-13 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| | 960 $^{\circ}\text{C}$ | 1760 $^{\circ}\text{F}$ | Glow Wire Flammability Index; IEC 60695-2-12 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------------------|--------------------|-----------|
| Volume Resistivity | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | IEC 60093 |
| Dielectric Constant | 4.0 | 4.0 | IEC 60250 |
| | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz | |
| | 4.3 | 4.3 | IEC 60250 |

| Electrical Properties | @Frequency 100 Hz Metric | @Frequency 100 Hz English | Comments |
|----------------------------|-----------------------------|------------------------------|-------------|
| Dielectric Strength | 30.0 kV/mm | 762 kV/in | IEC 60243-1 |
| Dissipation Factor | 0.00070 | 0.00070 | IEC 60250 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| Comparative Tracking Index | 0.0020 | 0.0020 | IEC 60250 |
| | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz | |
| Comparative Tracking Index | 300 V | 300 V | IEC 60112 |

| Descriptive Properties | Value | Comments |
|-----------------------------------|-------|----------|
| Heat stabilized or stable to heat | Yes | |
| Injection molding | Yes | |
| Platable | Yes | |
| With Fillers | Yes | |

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