

Solvay Technyl® A 402 H1 Nylon 66

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Unreinforced

Material Notes:

Unreinforced, very high viscosity, heat stabilized, for extrusion and injection molding. TECHNYL® A 402 H1 offers three main advantages: high impact resistance at low humidity levels, good rigidity, and excellent compression resistance. This grade is particularly suitable for the molding of plastic insulators for railway binding and for extrusion of plates and profiles. Information provided by Rhodia; Rhodia has been acquired by Solvay.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Technyl-A-402-H1-Nylon-66.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|-----------------|---------------------------|----------------|
| Density | 1.14 g/cc | 0.0412 lb/in ³ | ISO 1183-A |
| Water Absorption | 1.5 % | 1.5 % | ISO 62 |
| | @Time 86400 sec | @Time 24.0 hour | |
| Linear Mold Shrinkage, Flow | 0.019 cm/cm | 0.019 in/in | Rhodia EP test |
| Linear Mold Shrinkage, Transverse | 0.019 cm/cm | 0.019 in/in | Rhodia EP test |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|-------------------------------|
| Tensile Strength at Break | 60.0 MPa | 8700 psi | DAM; ISO 527 Type 1 A |
| Tensile Strength, Yield | 60.0 MPa | 8700 psi | Conditioned; ISO 527 Type 1 A |
| | 80.0 MPa | 11600 psi | DAM; ISO 527 Type 1 A |
| Elongation at Break | 60 % | 60 % | DAM; ISO 527 Type 1 A |
| | 250 % | 250 % | Conditioned; ISO 527 Type 1 A |
| Elongation at Yield | 8.0 % | 8.0 % | DAM; ISO 527 Type 1 A |
| | 30 % | 30 % | Conditioned; ISO 527 Type 1 A |
| Tensile Modulus | 1.30 GPa | 189 ksi | Conditioned; ISO 527 Type 1 A |
| | 3.10 GPa | 450 ksi | DAM; ISO 527 Type 1 A |
| Flexural Strength | 75.0 MPa | 10900 psi | Conditioned; ISO 178 |
| | 140 MPa | 20300 psi | DAM; ISO 178 |
| Flexural Modulus | 1.30 GPa | 189 ksi | Conditioned; ISO 178 |
| | 2.80 GPa | 406 ksi | DAM; ISO 178 |

| Izod Impact Notched (ISO) Mechanical Properties | 6.00 kJ/m ² Metric | 2.86 ft-lb/in ² English | DAM; ISO 180/A Comments |
|--|----------------------------------|---------------------------------------|----------------------------|
| | 35.0 kJ/m ² | 16.7 ft-lb/in ² | Conditioned; ISO 180/A |
| Charpy Impact Unnotched | NB | NB | DAM; ISO 179/1eU |
| | NB | NB | Conditioned; ISO 179/1eU |
| Charpy Impact, Notched | 0.700 J/cm ² | 3.33 ft-lb/in ² | DAM; ISO 179/1eA |
| | 3.00 J/cm ² | 14.3 ft-lb/in ² | Conditioned; ISO 179/1eA |

| Thermal Properties | Metric | English | Comments |
|---|---|--|---|
| CTE, linear | 70.0 µm/m-°C @Temperature 23.0 - 85.0 °C | 38.9 µin/in-°F @Temperature 73.4 - 185 °F | DAM; ISO 11359 |
| Melting Point | 263 °C | 505 °F | ISO 11357 |
| Deflection Temperature at 1.8 MPa (264 psi) | 75.0 °C | 167 °F | DAM; ISO 75-2 |
| Oxygen Index | 27 % | 27 % | Dry; ISO 4589 |
| Glow Wire Test | 775 °C @Thickness 1.60 mm | 1430 °F @Thickness 0.0630 in | Ignition Temperature; DAM; IEC 60695-2-13 |
| | 775 °C @Thickness 3.20 mm | 1430 °F @Thickness 0.126 in | Ignition Temperature; DAM; IEC 60695-2-13 |
| | 960 °C @Thickness 0.800 mm | 1760 °F @Thickness 0.0315 in | Flammability Index; DAM; IEC 60695-2-12 |
| | 960 °C @Thickness 1.60 mm | 1760 °F @Thickness 0.0630 in | Flammability Index; DAM; IEC 60695-2-12 |
| | 960 °C @Thickness 3.20 mm | 1760 °F @Thickness 0.126 in | Flammability Index; DAM; IEC 60695-2-12 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-----------------|-----------------|------------------------|
| Volume Resistivity | 1.00e+11 ohm-cm | 1.00e+11 ohm-cm | Conditioned; IEC 60093 |
| | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | DAM; IEC 60093 |
| Surface Resistance | 1.00e+11 ohm | 1.00e+11 ohm | Conditioned; IEC 60093 |
| | 1.00e+12 ohm | 1.00e+12 ohm | DAM; IEC 60093 |
| Dielectric Strength | 26.0 kV/mm | 660 kV/in | Conditioned; IEC 60243 |

| Electrical Properties | Metric 27.0 kV/mm | English 500 kV/in | Comments DAM; IEC 60243 |
|----------------------------|----------------------|----------------------|----------------------------|
| Dissipation Factor | 0.020 | 0.020 | DAM; IEC 60250 |
| | 0.10 | 0.10 | Conditioned; IEC 60250 |
| Comparative Tracking Index | 475 V | 475 V | DAM; IEC 60112 |
| | 575 V | 575 V | Conditioned; IEC 60112 |

| Processing Properties | Metric | English | Comments |
|---------------------------|----------------|--------------|----------|
| Rear Barrel Temperature | 260 - 270 °C | 500 - 518 °F | |
| Middle Barrel Temperature | 270 - 280 °C | 518 - 536 °F | |
| Front Barrel Temperature | 280 - 290 °C | 536 - 554 °F | |
| Mold Temperature | 60.0 - 80.0 °C | 140 - 176 °F | |
| Drying Temperature | 80.0 °C | 176 °F | |
| Moisture Content | <= 0.20 % | <= 0.20 % | |

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