

Solvay TECHNYL® A 221 PA66, DRY

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Description TECHNYL® A 221 is an unreinforced polyamide 66, medium viscosity, for injection molding, with a special crystallizing agent, for fast cycles. It is available in natural colors. Benefits: The product offers a good combination between primary properties of the unreinforced polyamide 66 and processing properties leading to increased productivity. These performances are associated with excellent dimensional stability and good rigidity of molded parts. Available in: Asia Pacific, Europe, Latin America and North America Regulations compliance: Grades produced or imported in Europe comply with directive 453/2010/EC, which amends REACH directive 1907/2006/EC. This grade complies with RoHS directive 2002/95/EC. Unless specified, this grade is not suitable for food contact, medical devices or toy applications. Applications: Connectors, lighters, aerosol valves. 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-221-PA66-DRY.php

| Physical Properties | Metric | English | Comments |
|---|---|---|------------|
| Density | 1.14 g/cc | 0.0412 lb/in ³ | ISO 1183/A |
| Water Absorption | 1.1 % | 1.1 % | ISO 62 |
| | @Temperature 23.0 °C, Time 86400 sec | @Temperature 73.4 °F, Time 24.0 hour | |
| Viscosity | 17 cP | 17 cP | |
| | @Shear Rate 1000 1/s, Temperature 300 °C | @Shear Rate 1000 1/s, Temperature 572 °F | |
| | 19 cP | 19 cP | |
| | @Shear Rate 1000 1/s, Temperature 290 °C | @Shear Rate 1000 1/s, Temperature 554 °F | |
| | 20 cP | 20 cP | |
| | @Shear Rate 1000 1/s, Temperature 280 °C | @Shear Rate 1000 1/s, Temperature 536 °F | |
| | 150 cP | 150 cP | |
| @Shear Rate 100 1/s, Temperature 300 °C | @Shear Rate 100 1/s, Temperature 572 °F | | |
| 201 cP | 201 cP | | |
| @Shear Rate 100 1/s, Temperature 280 °C | @Shear Rate 100 1/s, Temperature 536 °F | | |
| 201 cP | 201 cP | | |
| @Shear Rate 10.0 1/s, Temperature 300 °C | @Shear Rate 10.0 1/s, Temperature 572 °F | | |
| 205 cP | 205 cP | | |

| Physical Properties | Metric | English | Comments |
|-----------------------------------|--|--|----------|
| | @Shear Rate 10.0 1/s, Temperature 290 Å°C | @Shear Rate 10.0 1/s, Temperature 554 Å°F | |
| | 208 cP | 208 cP | |
| | @Shear Rate 100 1/s, Temperature 290 Å°C | @Shear Rate 100 1/s, Temperature 554 Å°F | |
| | 220 cP | 220 cP | |
| | @Shear Rate 10.0 1/s, Temperature 280 Å°C | @Shear Rate 10.0 1/s, Temperature 536 Å°F | |
| Linear Mold Shrinkage | 0.010 cm/cm | 0.010 in/in | Isotropy |
| Linear Mold Shrinkage, Flow | 0.012 cm/cm | 0.012 in/in | |
| Linear Mold Shrinkage, Transverse | 0.012 cm/cm | 0.012 in/in | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------------|-----------------|-----------------|
| Tensile Strength at Break | 95.0 MPa | 13800 psi | ISO 527 Type 1A |
| | 98.0 MPa | 14200 psi | ASTM D638 |
| Tensile Stress | 35.0 MPa | 5080 psi | |
| | @Strain 1.00 % | @Strain 1.00 % | |
| | 70.0 MPa | 10200 psi | |
| | @Strain 2.00 % | @Strain 2.00 % | |
| | 85.0 MPa | 12300 psi | |
| | @Strain 3.00 % | @Strain 3.00 % | |
| | 90.0 MPa | 13100 psi | |
| | @Strain 4.00 % | @Strain 4.00 % | |
| Elongation at Break | 15 % | 15 % | ASTM D638 |
| | 35 % | 35 % | ISO 527 Type 1A |
| Tensile Modulus | 3.20 GPa | 464 ksi | ISO 527 Type 1A |
| Flexural Strength | 125 MPa | 18100 psi | ISO 178 |
| | 125 MPa | 18100 psi | ASTM D790 |
| Flexural Modulus | 3.15 GPa | 457 ksi | ISO 178 |
| | 3.20 GPa | 464 ksi | ASTM D790 |
| Izod Impact, Notched (ISO) | 80.0 kJ/mÅ² | 38.1 ft-lb/inÅ² | ISO 180/1eA |

| Charpy Impact Unnotched Mechanical Properties | Metric | English | ISO 179/1eJ Comments |
|--|-------------------------|----------------------------|-------------------------|
| Charpy Impact, Notched | 0.400 J/cm ² | 1.90 ft-lb/in ² | ISO 179/1eA |

| Thermal Properties | Metric | English | Comments |
|--|----------------------------|-----------------------------|----------------|
| Melting Point | 263 Å°C | 505 Å°F | ISO 11357 |
| Deflection Temperature at 0.46 MPa (66 psi) | 200 Å°C | 392 Å°F | ISO 75/Bf |
| Deflection Temperature at 1.8 MPa (264 psi) | 80.0 Å°C | 176 Å°F | ASTM D648 |
| | 90.0 Å°C | 194 Å°F | ISO 75/Af |
| Flammability, UL94 | V-2 @Thickness 0.800 mm | V-2 @Thickness 0.0315 in | 1210 |
| | V-2 @Thickness 1.60 mm | V-2 @Thickness 0.0630 in | 1210 |
| Oxygen Index | 26 % | 26 % | ISO 4589 |
| Glow Wire Test | 700 Å°C | 1290 Å°F | ISO 60695-2-12 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-----------------|-----------------|-----------------------|
| Volume Resistivity | 1.00e+15 ohm-cm | 1.00e+15 ohm-cm | IEC 60093 |
| Surface Resistance | 1.00e+15 ohm | 1.00e+15 ohm | IEC 60093 |
| Dielectric Constant | 2.9 | 2.9 | IEC 60250 |
| Dielectric Strength | 27.0 kV/mm | 686 kV/in | IEC 60243 |
| Dissipation Factor | 0.030 | 0.030 | IEC 60250 |
| Comparative Tracking Index | 500 V | 500 V | Solution B; IEC 60112 |
| | 600 V | 600 V | Solution A; IEC 60112 |

| Processing Properties | Metric | English | Comments |
|-----------------------|-----------------|---------------|----------|
| Feed Temperature | 265 - 275 Å°C | 509 - 527 Å°F | |
| Mold Temperature | 60.0 - 80.0 Å°C | 140 - 176 Å°F | |
| Drying Temperature | 80.0 Å°C | 176 Å°F | |
| Moisture Content | <= 0.20 % | <= 0.20 % | |

| Descriptive Properties | Value | Comments |
|------------------------|------------|----------|
| Compression Zone | 270-280Å°C | |
| Mixing Zone | 280-290Å°C | |

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