

NYCOA Polyamide 5033 HST

Polyamide 66

Nycoa (Nylon Corporation of America)

Message:

NYCOA 5033 HST is a 33% glass fiber reinforced, heat stabilized, translucent Nylon 66 resin used for injection molding. It has been specifically formulated for see through storage tanks for automotive fluids.

NYCOA 5033 HST has excellent chemical resistance to most greases, oils and other hydrocarbons, high thermal resistance and translucency. Typical automotive under the hood applications include reservoir bottles for brake oil, transmission fluid, engine coolant, and power steering fluid. It also finds application in fuel tanks for ATVs, lawn & garden equipment and handheld machines.

| General Information | | | |
|---|---|-------------------|-------------|
| Filler / Reinforcement | Glass fiber reinforced material, 33% filler by weight | | |
| Additive | heat stabilizer | | |
| Features | Good chemical resistance | | |
| | Hydrocarbon resistance | | |
| | Oil resistance | | |
| | Grease resistance | | |
| | Thermal Stability | | |
| Uses | Lawn and Garden Equipment | | |
| | Parts under the hood of a car | | |
| | Fuel Tank | | |
| Appearance | Translucent | | |
| Forms | Particle | | |
| Processing Method | Injection molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Specific Gravity | 1.38 | g/cm ³ | ASTM D792 |
| Molding Shrinkage | | | ASTM D955 |
| Flow | 0.50 | % | ASTM D955 |
| Transverse flow | 0.80 | % | ASTM D955 |
| Water Absorption (24 hr) | 0.70 | % | ASTM D570 |
| Hardness | Nominal Value | Unit | Test Method |
| Rockwell Hardness (R-Scale) | 122 | | ASTM D785 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Strength ¹ | 200 | MPa | ASTM D638 |
| Tensile Elongation ² (Break) | 4.0 | % | ASTM D638 |
| Flexural Modulus ³ | 8900 | MPa | ASTM D790 |
| Flexural Strength ⁴ | 260 | MPa | ASTM D790 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact (6.35 mm) | 140 | J/m | ASTM D256 |

| Unnotched Izod Impact (6.35 mm) | 1100 | J/m | ASTM D256 |
|-----------------------------------|---------------|------|-------------|
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load | | | ASTM D648 |
| 0.45 MPa, not annealed | 260 | °C | ASTM D648 |
| 1.8 MPa, not annealed | 240 | °C | ASTM D648 |
| Melting Temperature | 263 | °C | DSC |

Additional Information

The value listed as Melting Point DSC, was tested in accordance with ASTM D789.

| Injection | Nominal Value | Unit |
|-------------------------|---------------|------|
| Drying Temperature | 71.1 - 82.2 | °C |
| Drying Time | 4.0 - 6.0 | hr |
| Rear Temperature | 266 - 282 | °C |
| Middle Temperature | 277 - 293 | °C |
| Front Temperature | 288 - 304 | °C |
| Nozzle Temperature | 282 - 302 | °C |
| Processing (Melt) Temp | 288 - 304 | °C |
| Mold Temperature | 76.7 - 87.8 | °C |
| Injection Rate | Fast | |
| Back Pressure | 0.138 - 0.345 | MPa |
| Cushion | 1.59 - 6.35 | mm |
| Screw L/D Ratio | 16.0:1.0 | |
| Screw Compression Ratio | 3.0:1.0 | |

NOTE

1. 51 mm/min
2. 51 mm/min
3. 51 mm/min
4. 51 mm/min

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