

Zythane® 7070AF

Thermoplastic Polyurethane Elastomer (Polyether)

Alliance Polymers & Services

Message:

Zythane 7070AF is a polyether--based FR TPU specifically formulated for both injection molding and extrusion applications with ease of processing. It exhibits excellent flame retardance, abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form.

Typical Applications:

Zythane 7070AF applications include among others FDA applications, cable sheathing, spiral and pneumatic tubing, film, irrigation hoses, conveyor hoses, fire hoses, hydraulic hoses, cable jacketing, flat flex cables, automotive sensor cables.

| General Information | | | |
|------------------------------|---------------------------------|-------------------|-------------|
| Features | Solvent resistance | | |
| | Good wear resistance | | |
| | Fuel resistance | | |
| | Oil resistance | | |
| | Good toughness | | |
| | Hydrolysis stability | | |
| | Flame retardancy | | |
| Uses | Cable sheath | | |
| | Pipe | | |
| | Pipe fittings | | |
| | Application in Automobile Field | | |
| Agency Ratings | FDA not rated | | |
| Appearance | Colorless | | |
| Forms | Particle | | |
| Processing Method | Extrusion | | |
| | Injection molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Specific Gravity | 1.10 | g/cm ³ | ASTM D792 |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness (Shore A) | 70 | | ASTM D2240 |
| Mechanical | Nominal Value | Unit | Test Method |
| Taber Abrasion Resistance | 37.0 | mg | ASTM D1044 |
| Abrasion - DIN | 30 | mm ³ | DIN 53516 |
| Elastomers | Nominal Value | Unit | Test Method |
| Tensile Stress | | | ASTM D412 |
| 100% strain | 3.00 | MPa | ASTM D412 |
| 300% strain | 6.00 | MPa | ASTM D412 |

| | | | |
|---------------------------------|---------------|--------------------|-------------|
| Tensile Strength (Break) | 24.0 | MPa | ASTM D412 |
| Tensile Elongation (Break) | 800 | % | ASTM D412 |
| Tear Strength ¹ | 68.6 | kN/m | ASTM D624 |
| Compression Set | | | ASTM D395B |
| 24°C, 22 hr | 22 | % | ASTM D395B |
| 70°C, 72 hr | 37 | % | ASTM D395B |
| Thermal | Nominal Value | Unit | Test Method |
| Brittleness Temperature | -53.9 | °C | DSC |
| Vicat Softening Temperature | 75.0 | °C | ASTM D1525 |
| Flammability | Nominal Value | | Test Method |
| Flame Rating | | | UL 94 |
| 1.00 mm | HB | | UL 94 |
| 1.50 mm | HB | | UL 94 |
| 3.00 mm | HB | | UL 94 |
| Injection | Nominal Value | Unit | |
| Drying Temperature | 85.0 | °C | |
| Drying Time | 4.0 | hr | |
| Rear Temperature | 165 | °C | |
| Middle Temperature | 180 | °C | |
| Front Temperature | 195 | °C | |
| Nozzle Temperature | 195 - 200 | °C | |
| Processing (Melt) Temp | 190 - 195 | °C | |
| Mold Temperature | 25.0 - 60.0 | °C | |
| Back Pressure | 0.500 - 1.00 | MPa | |
| Screw Speed | 60 - 200 | rpm | |
| Clamp Tonnage | 4.1 - 6.9 | kN/cm ² | |
| Injection instructions | | | |
| Injection Speed: >.4 in/sec | | | |
| Extrusion | Nominal Value | Unit | |
| Drying Temperature | 85.0 | °C | |
| Drying Time | 4.0 | hr | |
| Cylinder Zone 1 Temp. | 165 | °C | |
| Cylinder Zone 2 Temp. | 180 | °C | |
| Cylinder Zone 3 Temp. | 195 | °C | |
| Die Temperature | 198 | °C | |
| Extrusion instructions | | | |
| Gate Temperature: 195°C (383°F) | | | |
| NOTE | | | |
| 1. | C mould | | |

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