

Zythane® 5060A

Alliance Polymers & Services - Thermoplastic Polyurethane Elastomer (Polyester)

General Information

Product Description

Zythane 5060A is a polyester-based TPU specifically formulated for extrusion applications. It exhibits excellent abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form.

Typical Applications:

Zythane 5060A applications include among others spiral and pneumatic tubing, round and V belting, blow molded bellows.

General

| | | | |
|-------------------|--|---|--|
| Features | <ul style="list-style-type: none"> Abrasion Resistant Fuel Resistant | <ul style="list-style-type: none"> Good Toughness Hydrolytically Stable | <ul style="list-style-type: none"> Oil Resistant Solvent Resistant |
| Uses | <ul style="list-style-type: none"> Tubing | | |
| Appearance | <ul style="list-style-type: none"> Colorless | | |
| Forms | <ul style="list-style-type: none"> Pellets | | |
| Processing Method | <ul style="list-style-type: none"> Blow Molding | <ul style="list-style-type: none"> Extrusion | <ul style="list-style-type: none"> Injection Molding |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|------------------------------|---------------|-----------------|-------------|
| Density / Specific Gravity | 1.24 | | ASTM D792 |
| Mechanical | Nominal Value | Unit | Test Method |
| Taber Abrasion Resistance | 33.0 | mg | ASTM D1044 |
| Abrasion - DIN | 40 | mm ³ | DIN 53516 |
| Elastomers | Nominal Value | Unit | Test Method |
| Tensile Stress (100% Strain) | 1890 | psi | ASTM D412 |
| Tensile Stress (300% Strain) | 3630 | psi | ASTM D412 |
| Tensile Strength (Break) | 6960 | psi | ASTM D412 |
| Tensile Elongation (Break) | 440 | % | ASTM D412 |
| Tear Strength ² | 700 | lbf/in | ASTM D624 |
| Compression Set | | | ASTM D395B |
| 75°F, 22 hr | 28 | % | |
| 158°F, 72 hr | 43 | % | |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness (Shore A) | 60 | | ASTM D2240 |
| Thermal | Nominal Value | Unit | Test Method |
| Brittleness Temperature | 7.00 | °F | DSC |
| Vicat Softening Temperature | 284 | °F | ASTM D1525 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating | | | UL 94 |
| 0.04 in | | HB | |
| 0.06 in | | HB | |
| 0.12 in | | HB | |

Processing Information

| Injection | Nominal Value | Unit |
|--------------------|---------------|------|
| Drying Temperature | 185 | °F |
| Drying Time | 4.0 | hr |
| Rear Temperature | 383 | °F |

Zythane® 5060A

Alliance Polymers & Services - Thermoplastic Polyurethane Elastomer (Polyester)

| Injection | Nominal Value | Unit |
|------------------------|---------------|----------------------|
| Middle Temperature | 401 | °F |
| Front Temperature | 419 | °F |
| Nozzle Temperature | 410 to 428 | °F |
| Processing (Melt) Temp | 410 to 428 | °F |
| Mold Temperature | 77 to 140 | °F |
| Back Pressure | 43.5 to 189 | psi |
| Screw Speed | 60 to 200 | rpm |
| Clamp Tonnage | 3.0 to 5.0 | tons/in ² |

Injection Notes

Injection Speed: >.4 in/sec

| Extrusion | Nominal Value | Unit |
|-----------------------|---------------|------|
| Drying Temperature | 185 | °F |
| Drying Time | 4.0 | hr |
| Cylinder Zone 1 Temp. | 383 | °F |
| Cylinder Zone 2 Temp. | 401 | °F |
| Cylinder Zone 3 Temp. | 419 | °F |
| Die Temperature | 428 | °F |

Extrusion Notes

Gate Temperature: 210°C (410°F)

Notes

¹ Typical properties: these are not to be construed as specifications.

² Die C