

# Isocor™ HZ73SI

Polyamide 6

Shakespeare Monofilaments and Specialty Polymers

## Message:

Isocor™ HZ73SI is a high viscosity PA-6. This resin is specifically suited for applications requiring excellent abrasion, tensile and elongation properties. This resin can be processed using conventional techniques.

Typical applications for Isocor™ HZ73SI include:

profile extrusions

film extrusions

flexible tubing

fiber and filaments

| General Information |                                                                  |
|---------------------|------------------------------------------------------------------|
| Features            | Good flexibility<br>Good wear resistance<br>Viscosity, High      |
| Uses                | Films<br>Pipe fittings<br>Filament<br>Fiber<br>Profile           |
| Forms               | Particle                                                         |
| Processing Method   | Film extrusion<br>Profile extrusion molding<br>Injection molding |

| Physical                           | Dry  | Conditioned | Unit              | Test Method |
|------------------------------------|------|-------------|-------------------|-------------|
| Specific Gravity                   | 1.10 | --          | g/cm <sup>3</sup> | ASTM D792   |
| Molding Shrinkage - Flow (3.18 mm) | 1.5  | --          | %                 | ASTM D955   |
| Water Absorption (24 hr)           | --   | 0.53        | %                 | ASTM D570   |
| Mechanical                         | Dry  | Conditioned | Unit              | Test Method |
| Tensile Modulus                    | 1870 | 1640        | MPa               | ASTM D638   |
| Tensile Strength                   | 52.6 | 53.8        | MPa               | ASTM D638   |
| Impact                             | Dry  | Conditioned | Unit              | Test Method |
| Notched Izod Impact                | 140  | 140         | J/m               | ASTM D256   |
| Dart Drop Impact                   | 36.2 | 36.2        | J                 | ASTM D3029  |
| Thermal                            | Dry  | Conditioned | Unit              | Test Method |
| Glass Transition Temperature       | 120  | --          | °C                | DSC         |
| Melting Temperature                | 213  | --          | °C                | DSC         |

#### Additional Information

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Color, ASTM D1003-97: 9.68 LColor, ASTM D1003-97: -4.64 aColor, ASTM D1003-97: -6.68 b

| Injection              | Dry         | Unit |
|------------------------|-------------|------|
| Dew Point              | < -17.8     | °C   |
| Suggested Max Moisture | 0.20        | %    |
| Hopper Temperature     | 79.4        | °C   |
| Rear Temperature       | 221 - 243   | °C   |
| Middle Temperature     | 227 - 260   | °C   |
| Front Temperature      | 238 - 271   | °C   |
| Nozzle Temperature     | 238 - 271   | °C   |
| Processing (Melt) Temp | 238 - 271   | °C   |
| Mold Temperature       | 10.0 - 93.3 | °C   |
| Injection Pressure     | 3.45 - 13.8 | MPa  |
| Injection Rate         | Fast        |      |
| Back Pressure          | 0.689       | MPa  |
| Extrusion              | Dry         | Unit |
| Suggested Max Moisture | 0.10        | %    |
| Hopper Temperature     | 79.4        | °C   |
| Cylinder Zone 1 Temp.  | 254         | °C   |
| Cylinder Zone 2 Temp.  | 266         | °C   |
| Cylinder Zone 3 Temp.  | 271         | °C   |
| Cylinder Zone 4 Temp.  | 271         | °C   |
| Die Temperature        | 260         | °C   |

#### Extrusion instructions

Flange: 510°F (266°C)Air Dew Point (max): 0°F (-18°C)Neck: 510°F (266°C)Head: 500°F (260°C)Pump: 500°F (260°C)L/D Ratio: 24 to 30:1Compression Ratio: 3.5:1Polymer @ Die: 450°F (232°C)Screw Pressure: 2000 psi

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