



Riteflex® 440F

Celanese Corporation - Thermoplastic Polyester Elastomer

Tuesday, November 5, 2019

General Information

Product Description

Riteflex 440F is a nominal 38 Shore D thermoplastic polyester elastomer with medium modulus and improved flow for injection molding applications and use as a performance modifier for TPE compounding.

General

| | | | |
|-------------------|------------------------|--------------------|-----------------|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East | • Europe | • North America |
| | • Asia Pacific | • Latin America | |
| Features | • Good Flow | • Medium Stiffness | |
| Uses | • Compounding | | |
| Processing Method | • Injection Molding | | |

ASTM & ISO Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|-------------------|-----------------|
| Density | 1.11 | g/cm ³ | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (220°C/2.16 kg) | 25 | g/10 min | ISO 1133 |
| Molding Shrinkage - Flow | 1.2 to 1.4 | % | ISO 294-4 |
| Water Absorption (Saturation, 73°F) | 0.60 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | 7250 | psi | ISO 527-2/1A |
| Tensile Stress (Break) | 2610 | psi | ISO 527-2/1A/50 |
| Tensile Stress (50% Strain) | 1020 | psi | ISO 527-2/1A/50 |
| Tensile Strain (Break) | > 300 | % | ISO 527-2/1A/50 |
| Flexural Modulus (73°F) | 6530 | psi | ISO 178 |
| Flexural Stress | | | ISO 178 |
| 3.5% Strain | 290 | psi | |
| 73°F | 580 | psi | |
| Impact | Nominal Value | Unit | Test Method |
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -22°F | No Break | | |
| 73°F | No Break | | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -22°F | No Break | | |
| 73°F | No Break | | |
| Hardness | Nominal Value | Unit | Test Method |
| Shore Hardness | | | ISO 868 |
| Shore A, 15 sec | 88 | | |
| Shore D, 15 sec | 36 | | |
| Thermal | Nominal Value | Unit | Test Method |
| Heat Deflection Temperature (66 psi, Unannealed) | 117 | °F | ISO 75-2/B |
| Vicat Softening Temperature | 261 | °F | ISO 306/A50 |
| Melting Temperature ² | 383 | °F | ISO 11357-3 |
| CLTE - Flow | 1.3E-4 | in/in/°F | ISO 11359-2 |

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| Electrical | Nominal Value | Unit | Test Method |
|-------------------------------|---------------|---------|-------------|
| Surface Resistivity | 2.0E+15 | ohms | IEC 60093 |
| Volume Resistivity | 2.0E+14 | ohms·cm | IEC 60093 |
| Relative Permittivity (1 MHz) | 5.00 | | IEC 60250 |
| Dissipation Factor (1 MHz) | 0.020 | | IEC 60250 |
| Comparative Tracking Index | > 600 | V | IEC 60112 |

Processing Information

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature | 212 to 248 | °F |
| Drying Time | 4.0 | hr |
| Suggested Max Moisture | 0.050 | % |
| Hopper Temperature | 68 to 122 | °F |
| Rear Temperature | 365 to 392 | °F |
| Middle Temperature | 365 to 410 | °F |
| Front Temperature | 365 to 410 | °F |
| Nozzle Temperature | 374 to 419 | °F |
| Processing (Melt) Temp | 374 to 419 | °F |
| Mold Temperature | 68 to 131 | °F |
| Injection Rate | Moderate-Fast | |

Injection Notes

Feeding zone temperature: 185 to 200°C

Zone4 temperature: 185 to 215°C

Hot runner temperature: 190 to 215°C

Notes

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

² 10°C/min