RITEFLEX® 440

TPC — Celanese

Product Texts

Riteflex 440 is a nominal 40 Shore D thermoplastic polyester elastomer with medium modulus.

Flammability at thickness h (1.5 mm)	HB	-

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Molding shrinkage, parallel	**1.3**	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**50**	MPa	ISO 527
[C] Yield stress	**6**	MPa	ISO 527
[C] Yield strain	**28**	%	ISO 527
[C] Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**N**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**N**	kJ/m²	ISO 179/1eA
[C] Stress at 10% elongation	**4**	MPa	ISO 527
[C] Stress at 100% elongation	**8**	MPa	ISO 527
[C] Stress at 300% elongation	**12.7**	MPa	ISO 527
[C] Stress at break TPE	**21**	MPa	ISO 527
[C] Strain at break TPE	**>300**	%	ISO 527
[C] Tear strength	**96**	kN/m	ISO 34-1
[C] Shore D hardness	**37**	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**195**	°C	ISO 11357-1/-3
[C] Temp. of deflection under load, 0.45 MPa	**47**	°C	ISO 75-1/-2
[C] Coeff. of linear therm. expansion, parallel	**240**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 1MHz	**4.9**	-	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**200**	E-4	IEC 62631-2-1
[C] Volume resistivity	**2E10**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**>1E15**	Ohm	IEC 62631-3-2
[C] Electric strength	**26**	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.6**	%	Sim. to ISO 62
[C] Density	**1110**	kg/m³	ISO 1183

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**121**	°C	-
Pre-drying - Time	**4**	h	-
Processing humidity	**≤0.05**	%	-

Melt temperature	**200 - 215**	°C	-
Mold temperature	**20 - 55**	°C	-

Characteristics

Processing
Injection Molding, Film Extrusion

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Other text information

Injection molding
To avoid hydrolytic degradation during processing, RITEFLEX resins have to be dried to a moisture level equal to or less than 0.05%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-30°F (-34°C) at 225°F (121°C) for 4 hours.
Rear Temperature 370-390(185-200) deg F (deg C)
Center Temperature 390-410(200-210) deg F (deg C)
Front Temperature 390-420(200-215) deg F (deg C)
Nozzle Temperature 390-420(200-215) deg F (deg C)
Melt Temperature 390-420(200-215) deg F (deg C)
Mold Temperature 75-125(20-55) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.