

RITEFLEX® 440F - TPC

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.

Physical properties	Value	Unit	Test Standard
Density	1110	kg/m³	ISO 1183
Melt flow rate, MFR	25	g/10min	ISO 1133
MFR temperature	220	°C	ISO 1133
MFR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	1.2 - 1.4	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.6	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	50	MPa	ISO 527-2/1A
Tensile stress at 50% strain, 50mm/min	7	MPa	ISO 527-2/1A
Tensile stress at break, 50mm/min	18	MPa	ISO 527-2/1A
Tensile strain at break, 50mm/min	>500	%	ISO 527-2/1A
Flexural modulus, 23°C	45	MPa	ISO 178
Flexural strength, 23°C	4	MPa	ISO 178
Flexural stress at 3.5% strain	2	MPa	ISO 178
Charpy impact strength, 23°C	NB	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	NB	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	NB	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	NB	kJ/m²	ISO 179/1eA

Mechanical properties (TPE)	Value	Unit	Test Standard
Shore A hardness, 15s	88	-	ISO 868
Shore D hardness, 15s	36	-	ISO 868

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	195	°C	ISO 11357-1/-3
DTUL at 0.45 MPa	47	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 10N	127	°C	ISO 306
Coeff. of linear therm expansion, parallel	2.4	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 1MHz	5	-	IEC 60250
Dissipation factor, 1MHz	200	E-4	IEC 60250
Volume resistivity	2E12	Ohm*m	IEC 60093
Surface resistivity	2E15	Ohm	IEC 60093
Comparative tracking index	PLC 0	-	IEC 60112

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.05	%	-
Drying time	4	h	-
Drying temperature	100 - 120	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 50	°C	-
Feeding zone temperature	185 - 200	°C	-
Zone1 temperature	185 - 200	°C	-
Zone2 temperature	185 - 210	°C	-
Zone3 temperature	185 - 210	°C	-
Zone4 temperature	185 - 215	°C	-



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Nozzle temperature	190 - 215	°C	-
Melt temperature	190 - 215	°C	-
Mold temperature	20 - 55	°C	-
Hot runner temperature	190 - 215	°C	-
Speed	Value	Unit	Test Standard
Injection speed	medium-fast	-	-

Other text information

Pre-drying

To avoid hydrolytic degradation during processing, Riteflex TPC resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 225°F (107°C) for 4 hours.

Longer pre-drying times/storage

For subsequent storage of the material in the dryer until processed (<= 24h) it is necessary to lower the temperature to 80° C.

Characteristics

Special Characteristics	Delivery Form
High flow	Pellets

