Celanese
The chemistry inside innovation™

RITEFLEX® 447 - TPC

Description

Riteflex 447 is a nominal 47 Shore D thermoplastic polyester elastomer with a high melting point and excellent mechanical properties.

Physical properties	Value	Unit	Test Standard
Density	**1150**	kg/m³	ISO 1183
Melt flow rate, MFR	**15**	g/10min	ISO 1133
MFR temperature	**240**	°C	ISO 1133
MFR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**1.3 - 1.8**	%	ISO 294-4, 2577
Water absorption, 23°C-sat	**0.5**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**110**	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	**11**	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	**30**	%	ISO 527-2/1A
Tensile stress at break, 50mm/min	**27**	MPa	ISO 527-2/1A
Tensile strain at break, 50mm/min	**>500**	%	ISO 527-2/1A
Flexural modulus, 23°C	**100**	MPa	ISO 178
Flexural strength, 23°C	**6.5**	MPa	ISO 178
Flexural stress at 3.5% strain	**4**	MPa	ISO 178
Charpy notched impact strength, 23°C	**NB**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**45**	kJ/m²	ISO 179/1eA
Izod impact notched, 23°C	**NB**	kJ/m²	ISO 180/1A
Izod impact notched, -30°C	**NB**	kJ/m²	ISO 180/1A
Izod impact unnotched, 23°C	**NB**	kJ/m²	ISO 180/1U
Izod impact unnotched, -30°C	**NB**	kJ/m²	ISO 180/1U
Bayshore resilience	**59**	%	ASTM D 2632

Mechanical properties (TPE)	Value	Unit	Test Standard
Tensile strain at break, 1BA	**800**	%	ISO 527-1, -2
Tensile stress at break, 1BA	**25**	MPa	ISO 527-1, -2
Shore D hardness, 15s	**46**	-	ISO 868

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**212**	°C	ISO 11357-1/-3
DTUL at 0.45 MPa	**60**	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	**2.2**	E-4/°C	ISO 11359-2
Flammability 5V at thickness h	**HB**	class	UL 94
thickness tested (5V)	**1.5**	mm	UL 94

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 1MHz	**4.7**	-	IEC 60250
Dissipation factor, 1MHz	**300**	E-4	IEC 60250
Volume resistivity	**4E12**	Ohm*m	IEC 60093
Surface resistivity	**2E15**	Ohm	IEC 60093
Electric strength	**13**	kV/mm	IEC 60243-1
Comparative tracking index	**PLC 0**	-	IEC 60112

Other text information

Pre-drying

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 <-40°F (-40°C) at 225°F (107°C) for 4 hours.