

RITEFLEX® 640A - TPC

Description

Riteflex 640A is a thermoplastic polyester elastomer with nominal shore D hardness of 40 and medium-low modulus.

Physical properties	Value	Unit	Test Standard
Density	1130	kg/m³	ISO 1183
Melt flow rate, MFR	10	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	0.7	%	ISO 62
Humidity absorption, 23°C/50%RH	0.2	%	ISO 62
Mechanical properties	Value	Unit	Test Standard
Tensile modulus	60	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	7	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	27	%	ISO 527-2/1A
Tensile stress at 50% strain, 50mm/min	8	MPa	ISO 527-2/1A
Tensile stress at break, 50mm/min	17	MPa	ISO 527-2/1A
Tensile strain at break, 50mm/min	>500	%	ISO 527-2/1A
Flexural modulus, 23°C	65	MPa	ISO 178
Flexural modulus, -40°C	115	MPa	ISO 178
Flexural strength, 23°C	5	MPa	ISO 178
Flexural stress at 3.5% strain	3	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
Izod impact unnotched, 23°C	NB	kJ/m²	ISO 180/1U
Izod impact unnotched, -30°C	NB	kJ/m²	ISO 180/1U
Brittleness temperature	-78	°C	ISO 974
Bayshore resilience	59	%	ASTM D 2632
Ross flex	>1000000	cycles	ASTM D 1052
Mechanical properties (TPE)	Value	Unit	Test Standard
Tensile stress at 5% strain, 1BA	3	MPa	ISO 527-1, -2
Tensile stress at 10% strain, 1BA	5	MPa	ISO 527-1, -2
Tensile stress at 50% strain, 1BA	8	MPa	ISO 527-1, -2
Shore D hardness, 15s	40	-	ISO 868
Tear strength, Die C/parallel	84	kN/m	ISO 34-1
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	170	°C	ISO 11357-1/-3
DTUL at 0.45 MPa	56	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 10N	119	°C	ISO 306
Coeff. of linear therm expansion, parallel	2.2	E-4/°C	ISO 11359-2
Flammability at thickness h	HB	class	UL 94
thickness tested (h)	1.50	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	5E10	Ohm*m	IEC 60093
Surface resistivity	3E15	Ohm	IEC 60093
Electric strength	13	kV/mm	IEC 60243-1
Comparative tracking index	PLC 0	-	IEC 60112



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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 - 110	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 50	°C	-
Feeding zone temperature	160 - 180	°C	-
Zone1 temperature	160 - 180	°C	-
Zone2 temperature	170 - 200	°C	-
Zone3 temperature	170 - 200	°C	-
Zone4 temperature	170 - 205	°C	-
Nozzle temperature	170 - 205	°C	-
Melt temperature	170 - 205	°C	-
Mold temperature	20 - 55	°C	-
Hot runner temperature	170 - 205	°C	-
Speed	Value	Unit	Test Standard
Injection speed	medium-fast	-	-

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.

Longer pre-drying times/storage

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Characteristics

Product Categories	Processing
Unfilled	Injection molding

