

RITEFLEX® 425 - TPC

Description

Riteflex 425 is a nominal 25 Shore D thermoplastic polyester elastomer with low modulus and outstanding low temperature impact, and tear resistance.

Physical properties	Value	Unit	Test Standard
Density	1060	kg/m ³	ISO 1183
Melt flow rate, MFR	13	g/10min	ISO 1133
MFR temperature	190	°C	ISO 1133
MFR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	1.2	%	ISO 294-4, 2577
Molding shrinkage, normal	1.2	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.8	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 50% strain, 50mm/min	3	MPa	ISO 527-2/1A
Tensile stress at break, 50mm/min	10	MPa	ISO 527-2/1A
Tensile strain at break, 50mm/min	750	%	ISO 527-2/1A
Flexural modulus, 23°C	17	MPa	ISO 178
Flexural modulus, -40°C	162	MPa	ISO 178
Flexural modulus, 100°C	8	MPa	ISO 178
Flexural strength, 23°C	1	MPa	ISO 178
Flexural stress at 3.5% strain	1	MPa	ISO 178
Charpy impact strength, 23°C	NB	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	NB	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	NB	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	NB	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	NB	kJ/m ²	ISO 180/1A
Izod impact notched, -30°C	NB	kJ/m ²	ISO 180/1A
Izod impact notched, -40°C	NB	kJ/m ²	ISO 180/1A
Izod impact unnotched, 23°C	NB	kJ/m ²	ISO 180/1U
Izod impact unnotched, -30°C	NB	kJ/m ²	ISO 180/1U
Bayshore resilience	65	%	ASTM D 2632
Ross flex	>1000000	cycles	ASTM D 1052

Mechanical properties (TPE)	Value	Unit	Test Standard
Tensile stress at 5% strain, 1BA	1	MPa	ISO 527-1, -2
Tensile stress at 10% strain, 1BA	2	MPa	ISO 527-1, -2
Tensile stress at 50% strain, 1BA	3	MPa	ISO 527-1, -2
Shore A hardness, 15s	75	-	ISO 868
Shore D hardness, 15s	24	-	ISO 868
Tear strength, Die C/parallel	61	kN/m	ISO 34-1
Tear strength	62	kN/m	ISO 34-1

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	155	°C	ISO 11357-1/-3
DTUL at 0.45 MPa	42	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 10N	61	°C	ISO 306
Coeff. of linear therm expansion, parallel	2.5	E-4/°C	ISO 11359-2
Flammability @1.6mm nom. thickn.	HB	class	UL 94
thickness tested (1.6)	1.5	mm	UL 94

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 1MHz	5.1	-	IEC 60250
Volume resistivity	2E12	Ohm*m	IEC 60093
Surface resistivity	2E14	Ohm	IEC 60093
Electric strength	24	kV/mm	IEC 60243-1

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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	155 - 170	°C	-
Zone1 temperature	155 - 170	°C	-
Zone2 temperature	170 - 180	°C	-
Zone3 temperature	170 - 180	°C	-
Zone4 temperature	170 - 180	°C	-
Nozzle temperature	170 - 190	°C	-
Melt temperature	170 - 190	°C	-
Mold temperature	20 - 55	°C	-
Hot runner temperature	170 - 190	°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 215°F (102°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

Unfilled

Processing

Injection molding