Ticona
Performance Driven Solutions™

RITEFLEX® 655A | TPC | Unfilled

Description

Riteflex 655A is a thermoplastic polyester elastomer with nominal shore D hardness of 55 and medium modulus.

Physical properties	Value	Unit	Test Standard
Density	**1190**	kg/m³	ISO 1183
Melt flow rate (MFR)	**10**	g/10 min	ISO 1133
MFR test temperature	**220**	°C	ISO 1133
MFR test load	**2.16**	kg	ISO 1133
Mold shrinkage - parallel	**1.6-1.9**	%	ISO 294-4
Mold shrinkage - normal	**1.7-2.1**	%	ISO 294-4

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**175**	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	**15**	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	**28**	%	ISO 527-2/1A
Tensile stress at 50% strain (50mm/min)	**15**	MPa	ISO 527-2/1A
Tensile stress at break (50mm/min)	**30**	MPa	ISO 527-2/1A
Tensile strain at break (50mm/min)	**>300**	%	ISO 527-2/1A
Flexural modulus (23°C)	**175**	MPa	ISO 178
Flexural modulus (-40°C)	**700**	MPa	ISO 178
Flexural modulus (100°C)	**86**	MPa	ISO 178
Flexural strength (23°C)	**10**	MPa	ISO 178
Flexural stress @ 3.5% strain	**7**	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	**150.0P**	kJ/m²	ISO 179/1eA
Charpy notched impact strength @ -30°C	**65.0P**	kJ/m²	ISO 179/1eA
Notched impact strength (Izod) @ 23°C	**NB**	kJ/m²	ISO 180/1A
Notched impact strength (Izod) @-30°C	**N**	kJ/m²	ISO 180/1A
Shore hardness D scale 15 sec value	**55**	-	ISO 868
Bayshore resilience	**48**	%	Internal
Ross flex	**>1000000**	cycles	Internal

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**200**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**48**	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	**75**	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	**2**	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	**1.7**	E-4/°C	ISO 11359-2
Flammability at thickness h	**HB**	class	UL94
thickness tested (h)	**1.5**	mm	UL94

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 1 MHz	**4.4**	-	IEC 60250
Dissipation factor - 1 MHz	**400**	E-4	IEC 60250
Volume resistivity	**4E10**	Ohm*m	IEC 60093
Surface resistivity	**4E15**	Ohm	IEC 60093
Electric strength	**14**	kV/mm	IEC 60243-1
Comparative tracking index CTI	**>600**	-	IEC 60112

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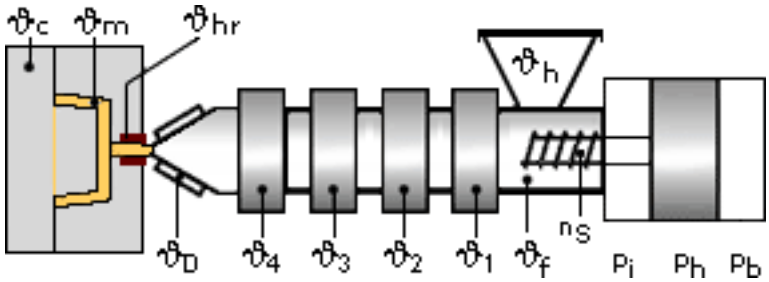
Mechanical-TPE properties	Value	Unit	Test Standard
Stress at 5% elongation	**8**	MPa	ISO 527-1/-2
Stress at 10% elongation	**12**	MPa	ISO 527-1/-2
Stress at 50% elongation	**15**	MPa	ISO 727-1/2
Tear strength (Die C, parallel)	**124**	kN/m	ISO 34-1

Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.05%

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.

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

Drying time: 4 h

Drying temperature: 100 - 110 °C

Temperature:

	ϑManifold	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
min (°C)	205	20	205	205	205	205	205	200	200	20
max (°C)	235	55	235	235	235	230	230	215	215	50

Speed:

Injection speed: medium-fast

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General Disclaimer

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values.
Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use.
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