

Riteflex® 655A

Thermoplastic Polyester Elastomer

Celanese Corporation

Message:

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

General Information			
UL YellowCard	E45575-100732523		
Features	Rigid, good		
Agency Ratings	UL MWHT2		
RoHS Compliance	Contact manufacturer		
Processing Method	Blow molding		
	Extrusion		
	Injection molding		

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm ³	ASTM D792, ISO 1183
Specific Volume	0.842	cm ³ /g	ASTM D792
Ross Flex	> 1.0E+6	Cycles	Internal method
Tear Strength	217.2	kN/m	ASTM D1004
Melt Mass-Flow Rate (MFR)			
--	7.0 - 11	g/10 min	ASTM D1238
220°C/2.16 kg	10	g/10 min	ISO 1133
Molding Shrinkage			
Flow	1.5	%	ASTM D955
Vertical flow direction	1.7 - 2.1	%	ISO 294-4
Flow direction	1.6 - 1.9	%	ISO 294-4

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			
Shaw D	55		ASTM D2240
Shaw D, 15 seconds	55		ISO 868

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	241	MPa	ASTM D638
--	175	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	15.0	MPa	ISO 527-2/1A/50
Fracture, 23°C	25.2	MPa	ASTM D638
Fracture	30.0	MPa	ISO 527-2/1A/50
5.0% strain	8.00	MPa	ISO 527-2

10% strain	12.0	MPa	ISO 527-2
50% strain	15.0	MPa	ISO 527-2/1A/50
Tensile Strain			
Yield	28	%	ISO 527-2/1A/50
Fracture, 23°C	430	%	ASTM D638
Fracture	> 300	%	ISO 527-2/1A/50
Flexural Modulus			
-40°C	700	MPa	ISO 178
23°C	175	MPa	ISO 178
100°C	86.0	MPa	ISO 178
Flexural Stress			
3.5% strain	7.00	MPa	ISO 178
23°C	10.0	MPa	ISO 178
Elastomers	Nominal Value	Unit	Test Method
Tear Strength			
--	212	kN/m	ASTM D624
Flow ¹	120	kN/m	ISO 34-1
Compression Set (23°C)	< 1.0	%	ASTM D395
Bayshore Resilience			
--	48	%	Internal method
--	48	%	ASTM D2632
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C, local fracture	65	kJ/m ²	ISO 179/1eA
23°C, local fracture	150	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	No Break		ISO 180/1A
23°C	No Break		ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	75.0	°C	ISO 75-2/B
1.8 MPa, not annealed	48.0	°C	ISO 75-2/A
Glass Transition Temperature	-56.7	°C	ASTM D3418
Vicat Softening Temperature	181	°C	ASTM D1525
Melting Temperature ²	200	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient			
Flow	2.0E-4	cm/cm/°C	ISO 11359-2
Lateral	1.7E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method

Surface Resistivity	4.0E+15	ohms	IEC 60093
Volume Resistivity			
--	5.0E+12	ohms·cm	ASTM D257
--	4.0E+12	ohms·cm	IEC 60093
Dielectric Strength			
-- ³	14	kV/mm	ASTM D149
--	14	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	4.40		IEC 60250
Dissipation Factor (1 MHz)	0.040		IEC 60250
Comparative Tracking Index	> 600	V	IEC 60112, ASTM D3638
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.050	%	
Hopper Temperature	20.0 - 50.0	°C	
Rear Temperature	200 - 215	°C	
Middle Temperature	205 - 230	°C	
Front Temperature	205 - 230	°C	
Nozzle Temperature	205 - 235	°C	
Processing (Melt) Temp	205 - 235	°C	
Mold Temperature	20.0 - 55.0	°C	
Injection Rate	Moderate-Fast		
Injection instructions			
Manifold Temperature: 205 to 235°CZone 4 Temperature: 205 to 235°CFeed Temperature: 200 to 215°C			
NOTE			
1.	Die C		
2.	10°C/min		
3.	Method A (short time)		

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