Riteflex® 655A

Celanese Corporation - Thermoplastic Polyester Elastomer

Tuesday, November 5, 2019

General Information

Product Description

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

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Medium Stiffness		
RoHS Compliance	• Contact Manufacturer		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.19	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/2.16 kg)	10	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.7 to 2.1	%	
Flow	1.6 to 1.9	%	
Water Absorption (Saturation, 73°F)	0.60	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	25400	psi	ISO 527-2/1A
Tensile Stress (Yield)	2180	psi	ISO 527-2/1A/50
Tensile Stress (Break)	4350	psi	ISO 527-2/1A/50
Tensile Stress			
5.0% Strain	1160	psi	ISO 527-2/1BA
10% Strain	1740	psi	ISO 527-2/1BA
50% Strain	2180	psi	ISO 527-2/1A/50
50% Strain	2180	psi	ISO 527-2/1BA
Tensile Strain (Yield)	28	%	ISO 527-2/1A/50
Tensile Strain (Break)	> 300	%	ISO 527-2/1A/50
Flexural Modulus			ISO 178
-40°F	102000	psi	
73°F	25400	psi	
212°F	12500	psi	
Flexural Stress			ISO 178
3.5% Strain	1020	psi	
73°F	1450	psi	
Ross Flex	> 1.0E+6	Cycles	ASTM D1052
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tear Strength - Flow [2]	708	lbf/in	ISO 34-1
Bayshore Resilience	48	%	ASTM D2632

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F, Partial Break	31	ft·lb/in²	
73°F, Partial Break	71	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			ISO 180/1A
-22°F	No Break		
73°F	No Break		

Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D, 15 sec)	55		ISO 868

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	167	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	118	°F	ISO 75-2/A
Vicat Softening Temperature	349	°F	ISO 306/A50
Melting Temperature [3]	392	°F	ISO 11357-3
CLTE - Flow	1.1E-4	in/in/°F	ISO 11359-2
CLTE - Transverse	9.4E-5	in/in/°F	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.0E+15	ohms	IEC 60093
Volume Resistivity	4.0E+12	ohms·cm	IEC 60093
Electric Strength	360	V/mil	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

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	HB		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	212 to 230	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.050	%
Hopper Temperature	68 to 122	°F
Rear Temperature	392 to 419	°F
Middle Temperature	401 to 446	°F
Front Temperature	401 to 446	°F
Nozzle Temperature	401 to 455	°F
Processing (Melt) Temp	401 to 455	°F
Mold Temperature	68 to 131	°F
Injection Rate	Moderate-Fast	

Injection Notes

Feeding zone temperature: 200 to 215°C

Zone4 temperature: 205 to 235°C

Hot runner temperature: 205 to 235°C

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Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Die C

[3] 10°C/min