



ENFLEX® EA5045A

ENPLAST Americas, a Ravago Group Company - Thermoplastic Elastomer

Tuesday, November 5, 2019

General Information

Product Description

45 Shore A TPE (Styrenic Block Copolymer based) available in black and natural for injection molding and extrusion applications. This grade offers soft/tactile, grippiness and adhesion (overmolding and co-extrusion) to Polycarbonate, ABS, Polyester and Acrylics.

General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• Acid Resistant	• Good Colorability	• Ozone Resistant
	• Alcohol Resistant	• Good Processability	• Recyclable Material
	• Base Resistant	• High Elasticity	• Soft
	• Detergent Resistant	• Low Compression Set	• Solvent Resistant
	• Good Adhesion	• Oil Resistant	• UV Resistant
Appearance	• Black	• Natural Color	
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.980		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	7.0	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	174	psi	ASTM D412
Tensile Strength (Break)	493	psi	ASTM D412
Tensile Elongation (Break)	700	%	ASTM D412
Tear Strength	101	lbf/in	ASTM D624
Compression Set			ASTM D395B
73°F, 22 hr	16	%	
158°F, 22 hr	72	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 10 sec, Extruded	43		
Shore A, 10 sec, Injection Molded	46		
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-76.0	°F	ASTM D746
Dynamic Service Temperature	176	°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	140 to 158	°F
Drying Time	2.0 to 3.0	hr
Rear Temperature	340 to 390	°F
Middle Temperature	350 to 410	°F
Front Temperature	375 to 430	°F
Nozzle Temperature	390 to 445	°F
Processing (Melt) Temp	390 to 430	°F
Mold Temperature	50 to 120	°F

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Injection	Nominal Value	Unit
Injection Pressure	750 to 1300	psi
Injection Rate	Fast	
Screw Speed	50 to 200	rpm
Clamp Tonnage	2.0 to 3.5	tons/in ²
Cushion	0.200 to 0.500	in

Injection Notes

Holding Time: 5 to 7 Sec.

Extrusion	Nominal Value	Unit
Drying Temperature	140 to 158	°F
Drying Time	2.0 to 3.0	hr
Hopper Temperature	320 to 350	°F
Cylinder Zone 1 Temp.	340 to 375	°F
Cylinder Zone 3 Temp.	355 to 390	°F
Cylinder Zone 5 Temp.	375 to 410	°F
Adapter Temperature	375 to 410	°F
Melt Temperature	375 to 390	°F
Die Temperature	375 to 410	°F
Screw L/D Ratio	24.0:1.0	

Extrusion Notes

Screw: L/D 20:1 or greater (L/D 24:1 preferred)

Cooling Water: 60 - 85°F (15-30°C)

Screw Speed: 100 - 200 rpm

Screen Pack: 20/40/60

Notes

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