



ENFLEX® S4045A

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 excellent resiliency and elasticity.

General

Material Status	• Commercial: Active
Availability	• North America
Features	<ul style="list-style-type: none">• Acid Resistant• Alcohol Resistant• Base Resistant• Detergent Resistant• Good Colorability• Good Processability• High Elasticity• High Heat Resistance• Low Compression Set• Oil Resistant• Ozone Resistant• Recyclable Material• Resilient• Solvent Resistant• UV Resistant
Appearance	<ul style="list-style-type: none">• Black• Natural Color
Processing Method	<ul style="list-style-type: none">• Extrusion• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.890		ASTM D792
Melt Mass-Flow Rate (230°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	165	psi	ASTM D412
Tensile Strength (Break)	675	psi	ASTM D412
Tensile Elongation (Break)	750	%	ASTM D412
Tear Strength	95.0	lbf/in	ASTM D624
Compression Set			ASTM D395B
73°F, 22 hr	15	%	
158°F, 22 hr	73	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 10 sec, Extruded	42		
Shore A, 10 sec, Injection Molded	45		
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-85.0	°F	ASTM D746
Dynamic Service Temperature	194	°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	150 to 160	°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

ENFLEX® S4045A

ENPLAST Americas, a Ravago Group Company - Thermoplastic Elastomer

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	150 to 160	°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.