EMPILON® 680

Styrene Ethylene Butylene Styrene Block Copolymer

EMPILON

Message:

EMPILON® 600 series compound having high transparency, good resilience, excellent mechanical properties and lower specific weight are specially designed for medical, food and anti-vibration related applications. Hydrogenated Styrenic Block Copolymer is the main content of this 600 series compound. They have low specific gravity and the hardness range is provided from Shore OO 33~Shore A 81. They can be processed by way of ordinary plastic machine for Injection, extrusion or calendaring etc.
EMPILON® 600-series compound are non-toxic and free of Pb, Cd, Hg, Cr6+, Sb, As, Ba, Se, halogen and DOP plasticizer, they comply with the Restriction of the use of certain Hazardous Substance directive in electrical and electronic equipment (RoHS 2002/95/EC) and SONY SS-00259 4th that prohibit products that contain Pb, Cd,Hg, Cr6+, PBB and PBDE etc. They are 100% recyclable and comply with the Waste Electrical and Electronic Equipment directive (WEEE 2002/95/EC).
EMPILON® 600-series compound retain good mechanical properties both before and after heat resistance, weathering and solvent tests and won't hydrolyze in water. It is not necessary to dehumidify the material before use. For coloring, please select color master batch based on material PE or EVA directive with the exception of PVC. Higher screw speed and backpressure are required for better colorant dispersion.

General Information	
Features	Block Copolymer
	Low (to no) lead content
	Low density
	Calcium content, low (to none)
	Recyclable materials
	Hydrolysis resistance
	Non-toxic
	Halogen-free
	No antimony
	Elastic
Uses	Non-specific food applications
	Medical/nursing supplies
RoHS Compliance	RoHS compliance
Appearance	Clear/transparent
Forms	Particle
Processing Method	Extrusion
	Calendering
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.890	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (150°C/2.16 kg)	20	g/10 min	ASTM D1238
Molding Shrinkage [1]			
Flow	1.2	%	

Transverse flow	1.0	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	77		ASTM D2240
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (300% Strain)	5.88	MPa	ASTM D412
Tensile Strength	8.24	MPa	ASTM D412
Tensile Elongation (Break)	620	%	ASTM D412
Compression Set (23°C, 70 hr)	31	%	ASTM D395
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air (125°C, 168 hr)	-13	%	ASTM D573
Change in Ultimate Elongation in Air (125°C, 168 hr)	-9.0	%	ASTM D573
Change in Durometer Hardness in Air (Shore A, 125°C, 168 hr)	-1.0		ASTM D573
Thermal	**Nominal Value**	**Unit**	
Brittleness Temperature	-50.0	°C	
Injection	**Nominal Value**	**Unit**	
Rear Temperature	165 - 175	°C	
Middle Temperature	175 - 190	°C	
Front Temperature	185 - 195	°C	
Nozzle Temperature	185 - 200	°C	
Processing (Melt) Temp	180 - 200	°C	
Mold Temperature	40.0 - 50.0	°C	
Injection Pressure	3.43 - 4.90	MPa	
Injection Rate	Fast		
Back Pressure	0.490 - 0.785	MPa	
Screw Speed	Medium		
Injection instructions			
Hold Time: 5 sec.Cycle Time: 15~30 sec.			
NOTE			
1.	Reference Only		

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