Hylac® EX18

Acrylonitrile Butadiene Styrene

Entec Polymers

Message:

Hylac®EX18 is an acrylonitrile butadiene styrene (ABS) material. This product is available in North America and is processed by extrusion. Hylac®The main features of EX18 are: ROHS certification Impact resistance

General Information			
Features	Ultra-high impact resistance		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.03	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR)			
200°C/5.0 kg	0.40	g/10 min	ASTM D1238
220°C/10.0 kg	4.5	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.30 - 0.70	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	100		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	2310	MPa	ASTM D638
Tensile Strength (Yield, 23°C)	34.5	MPa	ASTM D638
Tensile Elongation (Break, 23°C)	40	%	ASTM D638
Flexural Modulus (23°C)	1930	MPa	ASTM D790
Flexural Strength (Yield, 23°C)	55.2	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
23°C, 3.18 mm	430	J/m	ASTM D256
23°C, 6.35 mm	380	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	96.1	°C	ASTM D648
1.8 MPa, not annealed	86.1	°C	ASTM D648
Vicat Softening Temperature	106	°C	ASTM D1525
CLTE - Flow (-40 to 80°C)	1.2E-4	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Additional Information			

Melt Flow Rate, ASTM D1238, 230°C, 3.8kg: 0.8 g/10minVolume Resistivity, ASTM D257: >10^15CLTE, ASTM D696, -40°C to 80°C, Annealed: 6.6e-5 in/in/°F

Extrusion	Nominal Value	Unit
Drying Temperature	85.0	°C
Drying Time	3.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	191 - 210	°C
Cylinder Zone 2 Temp.	191 - 210	°C
Cylinder Zone 3 Temp.	199 - 221	°C
Cylinder Zone 4 Temp.	199 - 221	°C
Cylinder Zone 5 Temp.	199 - 221	°C
Adapter Temperature	221 - 241	°C
Die Temperature	221 - 241	°C

Extrusion instructions

Hylac ABS extrusion grade resins should be dried to a moisture content of 0.02% or less prior to processing. Control of the outer stock temperature is important in successfully finishing the product. Typical temperatures of outer stock range from 160°F to 175°F after passing through a water bath. The bath temperature profile will greatly affect the dimensional stability and appearance of the part, and if not set up properly could be detrimental to the ultimate mechanical strength of the product. Extruders with one-stage or two-stage force venting are recommended for the extrusion of sheets or profiles. Compression ratios should be between 2.5/1 and 3.0/1 for a single screw and between 1.5/1 and .0/1 for a two-stage screw. L/D ratios of 20/1 and 36/1 are typical.Process Parameter:Zone 6: 430-465°FZone 7: 430-465°FOuter Die Zone: 435-475°FMid Die Zone: 430-465°FCenter Die Zone: 420-465°FDie Lip Thickness: 3.2-4.0 mmNip Roll Top: 185-195°FNip Roll Middle: 175-185°FNip Roll Bottom: 165-175°FScreen Pack Mesh (2 layers): #60-80Extrusion parameters were found by extruding 3.2mm thick sheets at a haul off speed of 1368 mm/min and an output rate of 210 kg/hr. A polishing roll in a up stack wrap arrangement was used as well as a single screw with a 100mm diameter screw, a L/D ratio of 35/1, and a compression ratio of 3/1.

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