

PRE-ELEC® ESD 6300

High Impact Polystyrene

Premix Oy

Message:

PRE-ELEC® ESD 6300 is a static dissipative thermoplastic compound based on high impact polystyrene. The dissipative property is permanent and built into the polymer chain. PRE-ELEC® ESD6300 has been developed for extrusion of thermoformable multilayer sheets and injection molding. Surface resistance values of $1e8 \Omega$ (EOS/ESD S11.11-1993, IEC 61340-5-1) can be achieved with optimum processing parameters. The products made out of PRE-ELEC® ESD 6300 are washable, reusable, recyclable. PRE-ELEC® ESD 6300 is whitish in colour and can be coloured into various bright colours. Typical applications include injection moulded boxes, bins, thermoformed trays and clamshells when permanent ESD protection is required. These products can be used in electronics, medical, pharmaceutical and paper handling industries.

General Information	
Features	Impact resistance, good Recyclable materials Good coloring
Uses	Electrical/Electronic Applications Container Drug Medical/nursing supplies Loading box
Appearance	White
Forms	Particles
Processing Method	Extrusion Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.08	g/cm ³	ASTM D792
--	1.07	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	11	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage			
Flow	0.50 - 0.70	%	ASTM D955
Flow direction	0.50 - 0.70	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	15.9	MPa	ASTM D638
Yield	16.0	MPa	ISO 527-2
--	13.8	MPa	ASTM D638
4.00 mm	14.0	MPa	ISO 527-2
Tensile Elongation			

Yield	4.0	%	ASTM D638, ISO 527-2
Fracture	12	%	ASTM D638
Fracture, 4.00mm	12	%	ISO 527-2
Flexural Modulus			
4.00 mm	1240	MPa	ASTM D790
4.00 mm	1200	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 4.00 mm)	4.20	kJ/m ²	ASTM D256
Notched Izod Impact ¹ (23°C)	4.0	kJ/m ²	ISO 180
Unnotched Izod Impact (23°C, 4.00 mm)	23.1	kJ/m ²	ASTM D256
Unnotched Izod Impact Strength ² (23°C)	24	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	81.1	°C	ASTM D648B
0.45 MPa, not annealed	81.0	°C	ISO 75-2/Bf
1.8 MPa, not annealed	68.9	°C	ASTM D648A
1.8 MPa, not annealed	69.0	°C	ISO 75-2/Af
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+9	ohms	ESD STM11.11, IEC 61340-2-3
Static Decay			
--		sec	ESD S20.20
--		sec	IEC 61340-5-1
Injection	Nominal Value	Unit	
Drying Temperature	70.0 - 80.0	°C	
Drying Time	3.0 - 4.0	hr	
Processing (Melt) Temp	190 - 210	°C	
Mold Temperature	30.0 - 70.0	°C	
Injection Pressure	75.2 - 120	MPa	
Injection Rate	Moderate		
Extrusion	Nominal Value	Unit	
Drying Temperature	70.0 - 80.0	°C	
Drying Time	3.0 - 4.0	hr	
Cylinder Zone 1 Temp.	180	°C	
Cylinder Zone 2 Temp.	190	°C	
Cylinder Zone 3 Temp.	200	°C	
Cylinder Zone 4 Temp.	200	°C	
Cylinder Zone 5 Temp.	200	°C	
Extrusion instructions			
Cylinder Zone 6: 200°C			
NOTE			
1.	4 mm thickness		

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