

PRE-ELEC® ESD 7100

Acrylonitrile Butadiene Styrene

Premix Oy

Message:

PRE-ELEC® ESD 7100 is a static dissipative thermoplastic compound based on ABS. The dissipative property is permanent and built into the polymer chain. PRE-ELEC® ESD 7100 has been developed for injection moulding and for the extrusion of thermoformable mono- or multi-layer sheet. The products made out of PRE-ELEC® ESD 7100 are washable, reusable and recyclable. Surface resistance values of 1e8 ohms (EOS/ESD S11.11-1993, IEC 61340-5-1) can be achieved with optimum processing parameters.

Typical applications include trays, tote bins, crates and technical parts which give permanent ESD protection for the electronics, medical, pharmaceutical and paper handling industries. PRE-ELEC® ESD 7100 can be coloured into various bright colours.

General Information	
Features	Recyclable materials
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)			ISO 1133
200°C/21.6 kg	20	g/10 min	ISO 1133
200°C/5.0 kg	5.0	g/10 min	ISO 1133
Molding Shrinkage			
Flow	0.50 - 0.70	%	ASTM D955
--	0.50 - 0.70	%	ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	73		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	35.2	MPa	ASTM D638
Yield	35.0	MPa	ISO 527-2
--	26.9	MPa	ASTM D638
4.00 mm	27.0	MPa	ISO 527-2

Tensile Elongation			
Yield	6.0	%	ASTM D638, ISO 527-2
Fracture	28	%	ASTM D638
Fracture, 4.00mm	28	%	ISO 527-2
Flexural Modulus			
4.00 mm	1790	MPa	ASTM D790
4.00 mm	1800	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-20°C, 4.00 mm	4.20	kJ/m ²	ASTM D256
23°C, 4.00 mm	21.0	kJ/m ²	ASTM D256
Notched Izod Impact ¹			ISO 180
-20°C	4.0	kJ/m ²	ISO 180
23°C	12	kJ/m ²	ISO 180
Unnotched Izod Impact			ASTM D256
-20°C, 4.00 mm	50.4	kJ/m ²	ASTM D256
23°C, 4.00 mm	69.4	kJ/m ²	ASTM D256
Unnotched Izod Impact Strength ²			ISO 180
-20°C	49	kJ/m ²	ISO 180
23°C	68	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	87.8	°C	ASTM D648B
0.45 MPa, not annealed	88.0	°C	ISO 75-2/Bf
Vicat Softening Temperature	100	°C	ISO 306/A50, ASTM D1525 ³
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+10	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
2.	4 mm thickness
3.	速率 A (50°C/h), 载荷2 (50N)

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