

PRE-ELEC® PS 1324

Polystyrene Alloy

Premix Oy

Message:

PRE-ELEC® PS 1324 is a carbon black filled conductive thermoplastic compound based on polystyrene. In addition to a low electrical resistivity.

PRE-ELEC® PS 1324 has an excellent balance of mechanical properties and is easy to extrude.

Typical applications include extruded sheet for thermoformed ESD trays.

General Information			
Additive	Carbon black		
Features	Conductivity		
	Workability, good		
Forms	Particles		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.08	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238, ISO 1133
200°C/21.6 kg	45	g/10 min	ASTM D1238, ISO 1133
200°C/5.0 kg	0.80	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
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shaw A	99		ASTM D2240, ISO 868
Shaw D	73		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Transverse flow: Yield	17.9	MPa	ASTM D638
Flow: Yield	20.0	MPa	ASTM D638, ISO 527-2
Transverse flow: Yield	18.0	MPa	ISO 527-2
Across Flow	20.0	MPa	ASTM D638
Flow	22.1	MPa	ASTM D638
-- 1	20.0	MPa	ISO 527-2
-- 2	22.0	MPa	ISO 527-2
Tensile Elongation			
Transverse flow: Yield	4.0	%	ASTM D638, ISO 527-2
Flow: Yield	4.0	%	ASTM D638, ISO 527-2
Transverse flow: Fracture	65	%	ASTM D638
Flow: Fracture	80	%	ASTM D638

Fracture ³	65	%	ISO 527-2
Fracture ⁴	80	%	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
Charpy Notched Impact Strength ⁵			
-20°C	8.4	kJ/m ²	ASTM D256
-20°C	10	kJ/m ²	ISO 179
23°C	14	kJ/m ²	ISO 179
23°C	13	kJ/m ²	ASTM D256
Charpy Unnotched Impact Strength ⁶			
-20°C	61	kJ/m ²	ASTM D256
-20°C	60	kJ/m ²	ISO 179
23°C	No Break		ISO 179, ASTM D256
Notched Izod Impact			ASTM D256
-20°C, 4.00 mm	14.7	kJ/m ²	ASTM D256
23°C, 4.00 mm	18.9	kJ/m ²	ASTM D256
Notched Izod Impact ⁷			ISO 180
-20°C	14	kJ/m ²	ISO 180
23°C	18	kJ/m ²	ISO 180
Unnotched Izod Impact			ASTM D256
-20°C, 4.00 mm	63.0	kJ/m ²	ASTM D256
23°C, 4.00 mm	67.2	kJ/m ²	ASTM D256
Unnotched Izod Impact Strength ⁸			ISO 180
-20°C	64	kJ/m ²	ISO 180
23°C	67	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	78.9	°C	ASTM D648B
0.45 MPa, not annealed	79.0	°C	ISO 75-2/Bf
1.8 MPa, not annealed	67.2	°C	ASTM D648A
1.8 MPa, not annealed	67.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	97.2	°C	ASTM D1525 ⁹
--	97.0	°C	ISO 306/A50
Bending test			
-- ¹⁰	> 1.0E+3	Cycles	
-- ¹¹	> 1.0E+3	Cycles	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+5	ohms	ESD STM11.11, IEC 61340-2-3

Volume Resistivity	< 1.0E+4	ohms·cm	Internal method
Extrusion	Nominal Value	Unit	
Drying Temperature	60.0 - 80.0	°C	
Drying Time	3.0 - 4.0	hr	
Cylinder Zone 1 Temp.	180	°C	
Cylinder Zone 2 Temp.	200	°C	
Cylinder Zone 3 Temp.	200	°C	
Cylinder Zone 4 Temp.	210	°C	
Cylinder Zone 5 Temp.	220	°C	
Extrusion instructions			
Cylinder Zone 6: 220°C			
NOTE			
1.	Across Flow		
2.	Flow		
3.	Across Flow		
4.	Flow		
5.	4 mm thickness		
6.	4 mm thickness		
7.	4 mm thickness		
8.	4 mm thickness		
9.	速率 A (50°C/h), 载荷2 (50N)		
10.	Across Flow, ISO 5626		
11.	Flow, ISO 5626		

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