

PRE-ELEC® ABS 1410

Acrylonitrile Butadiene Styrene

Premix Oy

Message:

PRE-ELEC® ABS 1410 is a conductive thermoplastic compound based on ABS. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC® ABS 1410 has excellent mechanical properties and is easy to injection mold.

PRE-ELEC® ABS 1410 is intended for injection molding of precise technical parts with good impact strength.

General Information			
Filler / Reinforcement	Carbon Fiber		
Additive	Carbon Black		
Features	Conductive		
	Good Impact Resistance		
	Good Processability		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.08	g/cm ³	ASTM D792
--	1.10	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	15	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.50 to 0.80	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	76		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Flow : Yield	35.9	MPa	ASTM D638
Flow : Yield	36.0	MPa	ISO 527-2
Across Flow	30.0	MPa	ASTM D638
Flow	29.0	MPa	ASTM D638
-- ¹	30.0	MPa	ISO 527-2
-- ²	29.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Flow : Yield	4.0	%	
Break ³	4.0	%	
Break ⁴	8.0	%	
Flexural Modulus (4.00 mm)	2000	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			

-20°C ⁵	21	kJ/m ²	ASTM D256
-20°C ⁶	2.0	kJ/m ²	ISO 179
23°C ⁷	5.0	kJ/m ²	ISO 179
23°C ⁸	34	kJ/m ²	ASTM D256
Charpy Unnotched Impact Strength ⁹			
-20°C	21	kJ/m ²	ASTM D256, ISO 179
23°C	33	kJ/m ²	ISO 179
23°C	34	kJ/m ²	ASTM D256
Notched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	4.20	kJ/m ²	
23°C, 4.00 mm	6.30	kJ/m ²	
Notched Izod Impact Strength ¹⁰			ISO 180
-20°C	6.0	kJ/m ²	
23°C	7.0	kJ/m ²	
Unnotched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	29.4	kJ/m ²	
23°C, 4.00 mm	39.9	kJ/m ²	
Unnotched Izod Impact Strength ¹¹			ISO 180
-20°C	30	kJ/m ²	
23°C	40	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	87.8	°C	ASTM D648B
0.45 MPa, Unannealed	88.0	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	72.8	°C	ASTM D648A
1.8 MPa, Unannealed	73.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	104	°C	ASTM D1525, ISO 306/A50 6 ¹²
--	91.1	°C	ASTM D1525 ¹³
--	91.0	°C	ISO 306/B50
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+5	ohms	IEC 61340-2-3
Volume Resistivity	< 1.0E+5	ohms · cm	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0 to 4.0	hr	
Processing (Melt) Temp	220 to 260	°C	
Mold Temperature	60.0 to 90.0	°C	
Injection Pressure	75.0 to 120	MPa	
Injection Rate	Moderate		
NOTE			

1.	Across Flow
2.	Flow
3.	Across Flow
4.	Flow
5.	4 mm thickness
6.	4 mm thick
7.	4 mm thick
8.	4 mm thickness
9.	4 mm thick
10.	4 mm thick
11.	4 mm thick
12.	Rate A (50°C/h), Loading 2 (50 N)
13.	Rate B (120°C/h), Loading 2 (50 N)

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