

# PRE-ELEC<sup>®</sup> ESD 7120

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**PRE-ELEC<sup>®</sup> ESD 7120 is a static dissipative thermoplastic compound based on ABS. The dissipative property is permanent and built into the polymer chain. PRE-ELEC<sup>®</sup> ESD 7120 has been developed for injection moulding and for the extrusion of thermoformable mono- or multi-layer sheet. The products made out of PRE-ELEC<sup>®</sup> ESD 7120 are transparent, washable, reusable and recyclable. Surface resistance values of  $10^8$  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<sup>®</sup> ESD 7120 can also be used as covers and lids as it is transparent.**

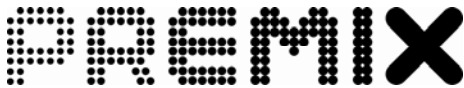
<b>Appearance</b>	granule
<b>Colour</b>	transparent
<b>Moisture content</b>	max. 0.15% when produced
<b>Packaging</b>	20 kg polyethylene valve bags, 1000 kg on one way pallet, stretch wrapped or in 1000 kg octabin
<b>Storage</b>	can be stored one year in its original package. Packages should be stored indoors.
<b>Processing</b>	PRE-ELEC <sup>™</sup> ESD 7120 compound can be processed without modifications in the machines using normal processing conditions as with ABS. Pre-drying is necessary e.g. 3 - 4 hours at 70 - 80 °C (160 – 175 °F) in a dehumidifying drier.

## Recommended processing parameters

<b>Extrusion temperature</b>	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Die	190 °C 370 °F	190 °C 370 °F	190 °C 370 °F	190 °C 370 °F	190 °C 370 °F	
Cylinder	170 °C 340 °F	190 °C 370 °F	190 °C 370 °F	190 °C 370 °F	190 °C 370 °F	190 °C 370 °F
Rolls	1 <sup>st</sup> 60 °C 140 °F	2 <sup>nd</sup> 60 °C 140 °F	3 <sup>rd</sup> 50 °C 120 °F			

<b>Injection molding</b>	Material temperature	180 - 210 °C (355- 410 °F)
	Mold temperature	30 - 70 °C (85 – 160 °F)
	Injection pressure	750 - 1200 bar (10900 -17400 psi)
	Post pressure	400 - 600 bar (5800 – 8700 psi)
	Injection speed	Moderate

These temperatures can be used for guidance purposes. They will also depend on the equipment used. The instructions of the equipment manufacturer should be followed.



**PRE-ELEC® ESD 7120**

PHYSICAL PROPERTIES		ISO TEST METHOD	METRIC UNITS	VALUE	ASTM TEST METHOD	U.S. Conventional Units	VALUE
Specific gravity			g/cm <sup>3</sup>	<b>1.07</b>			
Density						lb/in <sup>3</sup>	<b>0.039</b>
Melt Flow Index		1133			D-1238		
200°C / 5.0 kg			g/10min	<b>7</b>			
200°C / 21.6 kg			g/10min	-			
Tensile strength <sup>(2)</sup>		527	MPa	<b>23</b>	D-638	psi	<b>3300</b>
Yield strength <sup>(2)</sup>		527	MPa	<b>34</b>	D-638	psi	<b>4900</b>
Elongation at break <sup>(2)</sup>		527	%	<b>25</b>	D-638	%	<b>25</b>
Elongation at yield <sup>(2)</sup>		527	%	<b>6</b>	D-638	%	<b>6</b>
Modulus of elasticity <sup>(2)</sup>		178	MPa	<b>1600</b>	D-790	10 <sup>3</sup> psi	<b>230</b>
Impact strength, unnotched Izod <sup>(2)</sup>		180			D-256		
4.0 mm (0.156-in) thickness, 23°C/73°F			J/m	<b>400</b>		ft-lb/in	<b>7.5</b>
4.0 mm (0.156-in) thickness, -20°C/-4°F			J/m	-		ft-lb/in	-
Impact strength, notched Izod <sup>(2)</sup>		180			D-256		
4.0 mm (0.156-in) thickness, 23°C/73°F			J/m	<b>60</b>		ft-lb/in	<b>1.1</b>
4.0 mm (0.156-in) thickness, -20°C/-4°F			J/m	-		ft-lb/in	-
Vicat softening point <sup>(2)</sup>		306/			D-1525		
Rate A		A50	°C	<b>101</b>		°F	<b>214</b>
Rate B		B50	°C	<b>87</b>		°F	<b>189</b>
Deflection temperature <sup>(2)</sup>		75/			D-648		
0.45 MPa (66 psi) - load		Method Bf	°C	<b>84</b>		°F	<b>183</b>
1.8 MPa (264 psi) - load		Method Af	°C	<b>70</b>		°F	<b>158</b>
Surface resistance <sup>(1)</sup>		IEC 61340-2-3	Ω	<b>&lt;10<sup>10</sup></b>	ANSI/ES D STM 11.11	Ω	<b>&lt;10<sup>10</sup></b>
Static Decay Rate <sup>(1)</sup>		IEC 61340-5-1	s	<b>&lt;2</b>	ANSI/ES D S20.20	s	<b>&lt;2</b>
Mould shrinkage <sup>(2)</sup>		294-4	%	<b>0.5-0.7</b>	D-955	in/in	<b>0.005- 0.007</b>
Hardness <sup>(1)</sup>	Shore A	868		-	D-2240		-
	Shore D			<b>73</b>			<b>73</b>
Flammability	1 mm	RD524		<b>UL94: -</b>	RD524	39 mils	<b>UL94: -</b>
	3 mm			<b>UL94: -</b>		118 mils	<b>UL94: -</b>

<sup>(1)</sup> test specimen: 400µm (16 mils) thick sheet

<sup>(2)</sup> test specimen: 4.0 mm (0.156 in) thick, 10.0 mm (0.391 in) wide moulded rod

The information in this data sheet represents typical values obtained by us and should not be regarded as a specification.

We condition that the product will be inspected and qualified by the customer for his process to meet the specific requirements set by application, processing equipment and end product.

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