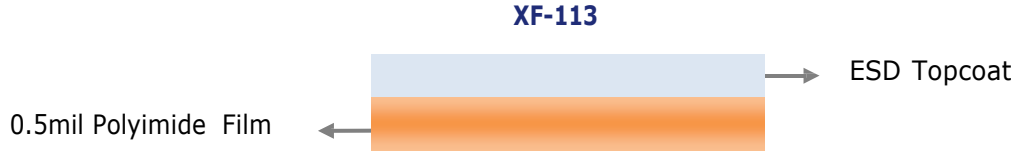




Description:

POLYONICS PolyFLEX™ XF-113 is a 0.5 mil (13µm) amber polyimide film with a durable HardCoat ESD-Safe topcoat.



Features:

- Static Dissipative
- REACH and RoHS compliant
- Dimensionally stable at high temperatures
- Chemically resistant
- Heat, cold, solvent and voltage resistant

Applications:

- Thin, static dissipative wraps, protective layers and barriers where PSA is not required.

Technical Data

PROPERTIES	TEST METHODS	AVERAGE RESULTS	
		Value	Units
<b>Thickness</b>	ASTM D1000		
	0.5 mil Polyimide	0.0005 (12.7)	Inch (µm)
	ESD topcoat	0.0003 (7.6)	
	Total	0.0008 (20)	
<b>Surface Resistance</b>	EOS/ESD S.11.11	≥10 <sup>4</sup> and ≤10 <sup>9</sup> Ohms	
<b>Thermal Conductivity</b>	ASTM F-433-77 (1987)	0.12	W/m·K
<b>Tensile Strength</b> 0.5 mil Polyimide	ASTM D882	138	MPa
<b>Elongation</b> 0.5 mil Polyimide	ASTM D882	35%	@ 20C
<b>Volume Resistivity</b> 0.5 mil Polyimide	ASTM D-257	10 <sup>12</sup>	Ohm-cm
<b>Dielectric Constant</b> 0.5 mil Polyimide	ASTM D150	4.0	@1 KHz
<b>Breakdown Voltage</b> 0.5 mil Polyimide	ASTM D-149	3.0 (0.118)	kV/mil (kV/µm)



POLYONICS

PolyFLEX Substrates

XF-113

0.5mil Amber Polyimide ESD-Safe™ Film

Durability Testing

Properties	Test Method	Test Fluid	Results
<b>Chemical Resistance</b>	MIL-STD-202G, Notice 12, Method 215K MIL-STD-883E, Notice 4, Method 2015.13	Solvent A -1 part IPA, 3 parts mineral spirits	No visible effect
		Solvent B - 1,1,1 Trichloroethane	Solvent deleted per notice 12
		Solvent C -Terpene Defluxer	No visible effect
		Solvent D -Saponifier	No visible effect
<b>Heat/ Chemical</b>	Polyonics 80386	Immersed in chemical at 70°C 5 min.	Image Degradation <sup>1</sup>
		Kyzen Corp. Aquanox SSA 30% aqueous,	No degradation
		Re-entry KNI 2000 Terpene 40-45°C, 5 min.	No degradation
		Alpha Metals 2110 Saponifier 10% aqueous	No degradation
		Isopropanol 99%	No degradation
		Kyzen XJN+, 30%	No degradation
<b>Weathering Test</b>	ASTM G154	No Visible Effect	
<b>Temperature Rating:</b>	<b>Long Term</b>	100 hours at 302°F (125°C)	
	<b>Operating</b>	5 minutes at 500°F (260°C)	
	<b>Short Term</b>	90 seconds at 572°F (300°C)	
<b>Shelf Life</b>	1 year below 80°F (27°C) and 60% R.H.		

Polyonics Material Compliance

<b>RoHS-</b> Restriction of Hazardous Substances (EU Directive 2002/95/EC)	Limits set forth in Directive 2005/618/EC amending Directive 2002/95/EC
<b>REACH-</b> Registration Evaluation and Authorization of Chemicals (EU Directive 1907/2006/EC)	Limits set forth in Directive 1907/2006/EC Article 7 (2)
<b>Halogens-</b> Restriction use of Halogen (IEC 61249-2-21)	Limits set forth in International Electrochemical Commission

All SI units are mathematically derived from U.S. conventional units.

NOTE: All values shown are averages and should not be used for specification purposes. Test data and test results contained in this document are for general information only and shall not be relied upon by POLYONICS customers for designs and specifications, or be relied on as meeting specified performance criteria. Customers desiring to develop specifications or performance criteria for specific product applications should contact POLYONICS for further information.

References:

ASTM: American Society for Testing and Materials (U.S.A.) SI: International Systems of Units.

Trademarks:

XJN+ & Aquanox SSA-TM is a trademark of Kyzen Corporation RE-ENTRYTM is a registered trademark of Environsolv Inc.





**POLYONICS**

**PolyFLEX Substrates**

**XF-113**

**0.5mil Amber Polyimide ESD-Safe™ Film**

**WARRANTY LIMITATION**

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The above warranties extend solely to Buyer and all warranty claims must be made by the Buyer. Rework or Replacement shall neither exceed nor decrease the original warranty period. The term of all warranty periods shall not exceed thirty (30) days from the date of the original shipment.

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