

**Flame Retardant Tag Stock
Thermal Transfer or Impact Printable
WHITE****Description:**

XT-650 is an extremely durable white Nomex[®] flame retardant tag material. This material is printable with dot matrix impact or thermal transfer printers. When used with the proper ribbon, the tag withstands many organic solvents, and especially fluids commonly used in the aircraft, transportation, and aerospace industries.

Special Properties:

WIREGARD XT-650 is a self-extinguishing material with excellent tear and solvent resistance properties. This product withstands temperature ranges from -40°F to 267°F (-40°C to 130°C).

Applications:

- POLYONICS' XT-650 is designed as a low cost, high performance wire bundle and cable identification tag for use in harsh environments.

Special Considerations:

- All properties are typical values and should not be used for writing specifications.
- Shelf Life: 2 years at 70°F. (21°C.) and 40 to 50 % RH
- 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



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Polyonics Material Specifications

PROPERTIES	TEST METHODS	AVERAGE RESULTS	
		USA Units	SI Units
Thickness	ASTM D1000		
-Substrate		0.012 inch	.305 +/- .011mm
Hole Tear Strength	Polyonics Doc 80418	>20 lbs	9 kg.
Tensile Strength at Break	ASTM D149	178 lb/in	12.5 kg/mm
Elongation % at Break	ASTM D149	23.8%	23.8%
Dielectric Strength	ASTM D1000	17,000 volts	17,000 volts
Color- White	Munsell	5.157Y 9.214/0.950 L=93.18, a= -1.39, b= 8.04	
Vacuum Out gassing Tested at an outside laboratory	ASTM 595	%Total Mass Loss (TML) = 1.6% % Collected Volatile Condensable Material (CVCM) = 0.16% % Water Vapor Recovered (WVR) = 1.34%	
Surface Flammability Tested at an outside laboratory	ASTM 162-02a	Flame Spread Factor: White = 15	
Specific Optical Density of Smoke Tested at an outside laboratory	ASTM E662-09	Flaming mode at 1.5 minutes: white = 4 Flaming mode at 4.0 minutes: white = 15 Non-Flaming mode at 1.5 minutes: white = 0.8 Non-Flaming mode at 4.0 minutes: white = 0.0	
Temperature Rating:		-40 to 267°F (-40 to 130°C)	
Shelf Life		2 years at 70°F (21°C) and 50% R.H.	
Tested ribbons		Ricoh B110A	

Durability Testing

Performance Properties	Test Methods	Typical
Service Temperature	30 days at -70°F (-57°C)	No Visible Effect
	30 days at 266°F (130°)	No Visible Effect
	30 min. at 356°F (180°C)	Slight Discoloration
Print Adherence	Mil Spec. 81531 (4.5.2)	No visible effect, pass
Weatherability	ASTM G154 (QUV, 30 days)	Slight material fade, print unaffected
Humidity Resistance	30 days at 100°F, 95% RH	No Visible Effect

Polyonics Material Compliance

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

Chemical Testing

- Samples Printed with Ricoh B110A thermal transfer ribbon. After 24 hour dwell, the samples were immersed in the specified chemical reagent for 30 minutes. After emersion, print image was rubbed 10 times with cotton swab saturated with test fluid.

Chemical Reagent	Subjective Observation of Visual Change	
	With out rub	After rub
Water	No Visible Effect	No Visible Effect
Isopropyl Alcohol (IPA)	No Visible Effect	No Visible Effect
10% Sulfuric Acid Solution	No Visible Effect	No Visible Effect
10% Sodium Hydroxide Solution	No Visible Effect	No Visible Effect
3% Alconox [®]	No Visible Effect	No Visible Effect
MIL 5606	No Visible Effect	No Visible Effect
Skydrol [®]	No Visible Effect	Slight Print Fade
JP-8	No Visible Effect	No Visible Effect
Propoline Glycol	No Visible Effect	No Visible Effect
5% Salt Solution	No Visible Effect	No Visible Effect
Gasoline	No Visible Effect	Slight Print Fade
Methyl Ethyl Ketone (MEK)	No Visible Effect	Print Removed
BIOACT EC-7R	No Visible Effect	Slight Print Fade

Key for Tables on page 2 & 3

- All SI units are mathematically derived from U.S. conventional units.
- Nomex[®] is a registered trademark of DuPont, Inc.
- Skydrol[®] is a registered trademark of Monsanto Co.
- ASTM: American Society for Testing and Materials (USA)



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XF-650

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WARRANTY-LIMITATION

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