

**Thermal Transfer Printable Aluminum  
WHITE**

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**Description:**

Polyonics XF-803 is an aluminum label material with a permanent pressure sensitive, ultra-high-temperature silicone adhesive and a **high opacity, white topcoat** specifically designed for thermal transfer printing on aluminum labels. Do not touch topcoat or ribbon print when hot as smearing may occur, once cooled, ribbon and topcoat are bonded and smear resistant.

**Printer Technology:**

The choice of **thermal transfer** printer influences the print quality for the overall aluminum tag performance. Our materials can be used with most high performance industrial thermal transfer printers. **Testing for specific printer and ribbon is mandatory.**

**Applications:**

- Polyonics XF-803 aluminum label material is designed for barcode or alphanumeric identification of hot metal items.
- It is the ideal label to withstand the high temperatures encountered in steam pipe, oven and other long term high temperature exposure applications.
- Aluminum and steel mills: cold rolling, tube mills & structural steel mills
- Coils springs, heat treating, nameplates on industrial equipment
- Any place a label needs to survive 350°F (176°C) or hotter for more than 10 minutes

**Special Considerations:**

- The surface that you want to label should be clean, dry and free of any surface contamination, such as dust, oil or rust. Isopropyl alcohol would be a recommend solvent to clean the surface.
- When you apply the label, you must use firm pressure to increase the physical contact of the adhesive with the surface of the product.
- Pressure sensitive adhesives will provide stronger bonds to a warm surface, as compared to a colder one. The adhesive will 'flow' more readily, increasing the surface area and increasing the adhesion peel strength.
- The XF-803 top coat & print should not be contacted while exposed to elevated temperature.
- All values shown are averages and should not be used for specification purposes. Adhesion and tack values have a 15% tolerance allotted to the above values stated.
- 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

**Technical Data**

| Properties                     | Test Method  | Average Results                   |          |
|--------------------------------|--|-----------------------------------|----------|
|                                |  | USA Units                         | SI Units |
| <b>Thickness</b>               | <b>ASTM D1000</b>                                      |                                   |          |
| <b>-Substrate</b>              |  | 0.0024 inch                       | 0.061 mm |
| <b>-Adhesive</b>               |  | 0.0010 inch                       | 0.025 mm |
| <b>-Total</b>                  |  | 0.0034 inch                       | 0.086 mm |
| <b>Thermal Characteristics</b> | Application Temperature                                | 68°F to 104°F (20°C to 40°C)      |          |
|                                | Operating Temperature                                  | -148°F to 350°F (-100°C to 176°C) |          |
| <b>Shelf Life</b>              | <b>6 months below 80°F (27°C) and 60% R.H.</b>         |                                   |          |
| <b>Ribbon Recommendations</b>  | Armor AXR7+, AXR8, DNP R510, Fujicopian FTX304, FTX306 |                                   |          |

**Polyonics Material Compliance**

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


**References:**

ASTM: American Society for Testing and Materials (U.S.A.)

SI: International Systems of Units. All SI units are mathematically derived from U.S. conventional units.

\* **Shelf Life:** XF-803 aluminum label material can be stored for at least **6 months** in an environment below 80° F and 60% RH. We are confident that our product will perform well beyond this time frame, however, it remains the responsibility of the user to assess the risk of using such product. We encourage customers to develop functional testing protocols that will qualify a product's fitness for use, in their actual applications.

**Surface conditions:** Slight surface imperfections such as microcracks, pick-up (sparkles or bumps) and die lines are often caused by local variations in the microstructure of the foil due to size and distribution of intermetallic particles, grain size and grain orientation/texture. Such imperfections are common and beyond our control. This material is not recommended for high density small print labels.



**POLYONICS**

**POLYONICS METALGARD™**

**XF-803**

**Thermal Transfer Printable Aluminum**

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**WARRANTY-LIMITATION**

Polyonics' products are sold with the understanding that the buyer will test them in actual use and determine for him/herself their functionality for the intended uses. Polyonics warrants to the buyer that its products are free from defects in material and workmanship, but limits its obligation under this warranty to replacement of the products shown to Polyonics' satisfaction to have been defective, provided that the Buyer has complied with the handling, storage and shelf life requirements as specified by Polyonics in applicable materials specifications.

The above warranties extend solely to Buyer and all warranty claims must be made by Buyer. Rework or Replacement shall neither extend 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.

**THE ABOVE WARRANTIES ARE EXCLUSIVE OF AND IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE. NO IMPLIED STATUTORY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. POLYONICS SHALL NOT BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, OR FROM DELAY IN THE REPLACEMENT OR REPAIR OF PRODUCTS UNDER THE ABOVE WARRANTY.**

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