

HIGHdegree™

Labels & Tags for Metal Manufacturing

**RELIABILITY.
TO THE EXTREME.**



POLYONICS®

Innovative Materials for Harsh Environments



METAL MANUFACTURING TRACK AND TRACE CHALLENGES

Polyonics® is globally recognized as a specialty chemistry and coating expert for labels and tags, and are experts at solving complex technical challenges. Polyonics HIGHdegree™ label and tag materials can be powerful solutions to address track and trace challenges in a range of metal manufacturing applications.

HIGH DEGREES OF ACCURACY AND CONFIDENCE

The thermal transfer printable surfaces offer high durability and abrasion resistance for long-term retention of critical barcode information. The surfaces resist fading and/or discoloring and will not degrade during extended exposures to elevated temperatures and weather. This further enhances long-term barcode readability and improves traceability to ensure delivery of the highest quality products to your customers.

With HIGHdegree, you can make the move to automated systems, create a safer work environment and deliver the track and trace accuracy your customers demand.

HIGHdegree barcode tag materials are excellent alternatives to riveted plates, chalk or crayons for tracking hot metals in mills to reduce labor costs associated with manual labeling and tagging. Our hang tags also provide high tear resistance to prevent unintended removal during storage or delivery to further ensure accurate material management and accountability.

FORGED UNDER FIRE

The HIGHdegree line is rated up to 1112 °F (600 °C). But what really makes them rate is the superior durability and quality we bake into every label and tag.

Their extreme performance through extreme heat enables you to avoid the high expense of lost production due to incorrectly labeled materials and unreadable barcodes — and to provide validation that your products are exactly what your customers ordered.

FEATURES & BENEFITS

- **Labels:**
 - Temperature resistance up to 1112 °F (600 °C)
 - High strength adhesion across service temperature range
 - Weather-resistant
- **Tags:**
 - Temperature resistance up to 1112 °F (600 °C)
 - Excellent tear strength
 - White coating provides high contrast printing
- **Excellent thermal transfer printability**
- **High durability and abrasion resistance**
- **REACH and RoHS compliant**
- **Reliable barcode readability and accurate material traceability**



THE HIGHdegree™

TAG AND LABEL PRODUCT LINE

Our barcode tags are available in 5-mil and 6-mil polyimide film and a 9-mil white paper laminate with high tear resistance. They offer single- and double-sided print surfaces, varying levels of gloss and temperature resistance from -108 °F up to 1112 °F (-78 °C to 600 °C).

Polyonics HIGHdegree thermal transfer printable polyimide and aluminum bar code label materials include unique, non-yellowing polymer or silicone print surfaces along with aggressive, high temp acrylic or ultra-high temperature silicone pressure sensitive adhesives (PSA).



APPLICATIONS

Identification of hot metal bars, rods, pipes, tubes, sheets, rolls, coils, etc.

Replace riveted plates, chalk or crayons

Track and trace solution for steel, aluminum and other metals mills and manufacturers

Post furnace, in-process labeling/tagging





LABELS AND TAGS THAT GO TO THE EXTREME

Polyonics HIGHdegree label and tag materials thrive on the extreme temperature ranges encountered throughout the metal manufacturing process.

From production through delivery of completed goods to customers, they can take the heat every step of the way.

Labels and tags forged from Polyonics HIGHdegree materials can be applied directly to or hung from hot coils, rolls, bars, sheets, rebar, tubes, or wire bundles. The durability of our thermal transfer printable materials allows you to track production, validate quality and increase efficiencies throughout your manufacturing operation.

POLYONICS HIGHdegree™ LABEL PRODUCT LINE

Film	Product	Finish	Adhesive	Temperature Range
2 mil (50 µm) Polyimide	ML-3719	Matte White	1.5 mil (38 µm) High Temperature Acrylic	<i>Short Term:</i> 572 °F (300 °C) <i>Long Term:</i> 482 °F (250 °C)
2 mil (50 µm) Polyimide	ML-3792	Semi-gloss White	2 mil (50 µm) High Temperature Acrylic	<i>Short Term:</i> 752 °F (400 °C) <i>Long Term:</i> 500 °F (260 °C)
1 mil (25 µm) Aluminum	ML-3730	White	1.5 mil (38 µm) High Temperature Acrylic	<i>Short Term:</i> 662 °F (350 °C) <i>Long Term:</i> 437 °F (225 °C)
2 mil (50 µm) Silicone Coated Aluminum	ML-3703	White	1 mil (25 µm) Ultra-High Temperature Silicone	<i>Short Term:</i> 1112 °F (600 °C) <i>Long Term:</i> 680 °F (360 °C)
2 mil (50 µm) Silicone Coated Aluminum	ML-3708	White	2 mil (50 µm) High Temperature Acrylic	<i>Short Term:</i> 842 °F (450 °C) <i>Long Term:</i> 572 °F (300 °C)

POLYONICS HIGHdegree™ TAG PRODUCT LINE

Film	Product	Finish	Temperature Range
9 mil (229 µm) Paper Laminate	MT-3608	Gloss white both sides	<i>Short Term:</i> 572 °F (300 °C) <i>Long Term:</i> 347 °F (200 °C)
5 mil (125 µm) Polyimide	MT-3620	Gloss white both sides	<i>Short Term:</i> 1112 °F (600 °C) <i>Long Term:</i> 572 °F (300 °C)
6 mil (152 µm) Polyimide	MT-3630	Semi-gloss both sides	<i>Short Term:</i> 1112 °F (600 °C) <i>Long Term:</i> 662 °F (350 °C)

* Short Term is 5 minutes in enclosed kiln

**Long Term is 10 hours in enclosed kiln

For additional technical information, please contact us at **603.352.1415** or info@polyonics.com



July 2022

Polyonics World Headquarters

28 Industrial Park Drive
Westmoreland, NH 03467 U.S.A.
Ph: 603.352.1415
Fax: 603.352.1936
Email: info@polyonics.com

Asia Email: infoasia@polyonics.com

polyonics.com

