



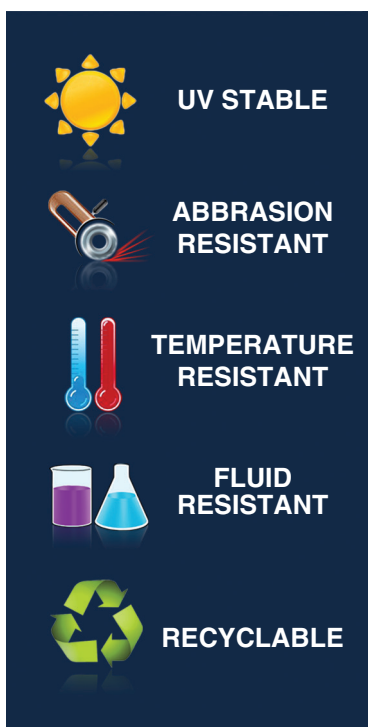
Metalphoto® Aluminum Labels

**Exceptionally Durable.
Widely Specified.
High Resolution Graphics.**

Exceptionally Durable. Widely Specified. Photographic Resolution.

For more than 50 years, industrial, military and government engineers have specified Metalphoto® photosensitive anodized aluminum for durable labels, nameplates, schematics and control panels installed in harsh operating environments. The proprietary technology of Metalphoto permanently seals a UV-stable image inside of anodized aluminum – offering the confidence of unparalleled durability, image resolution and barcode readability.

When durability matters, specify Metalphoto®



Product Benefits

Exceptionally Durable:

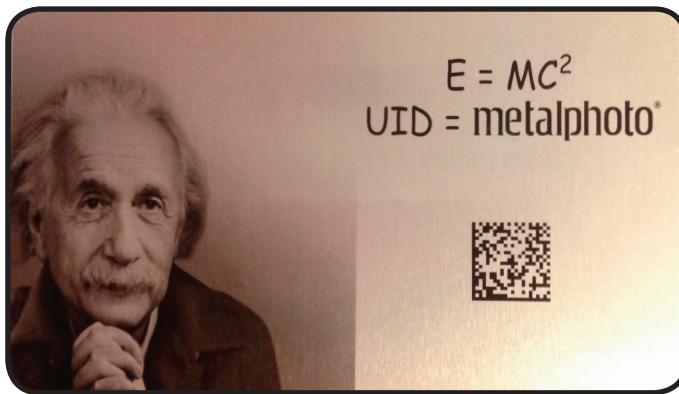
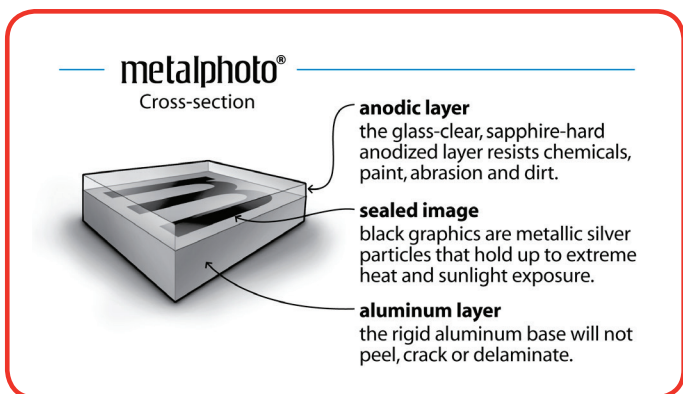
- UV-stable image is permanently sealed within the anodized aluminum
- Virtually impervious to chemicals, heat, abrasion, salt spray and sunlight
- Certified for 20-year plus outdoor applications
- Earned more top scores than any other IUID barcode label material tested by the U.S. Navy (NSWC, Corona Division, IUID Center; August 2011)

Widely Specified:

- Meets a wide array of commercial, government and military specifications
- Notable certifications include: MIL-STD-130N, STANAG 2290, GGP-455B(3) Type I, MIL-DTL-15024F, MIL-P-19834B and A-A-50271

Photographic Resolution:

- Photographic image affords extreme detail and contrast at any size
- Anti-counterfeit security printing is available



Industries & Applications

With its durability, specifications and print quality, Metalphoto labels are an ideal solution for a variety of industries and applications. The following are areas of use for Metalphoto labels in the aerospace, military defense, marine, industrial equipment manufacturing, and chemical oil and gas industries:

Aerospace and Defense, and Military Vehicle:

Metalphoto has been incorporated into several major Army weapons systems including the Abrams Tank, the Bradley Fighting Vehicle and the HMMWV. Both Marine Corps and Army Depots operate Metalphoto production facilities. All Departments utilize Metalphoto for Item Unique Identification (IUID) barcode labels as specified under MIL-STD-130.

Marine:

Metalphoto labels are designed to stand up to saltwater corrosion, UV/sunlight degradation, abrasion and solvents that are common in marine applications. Brady's Metalphoto materials have been used in the industrial marine industry as asset tags on workboats, shipping container nameplates and control panels on off-shore marine cranes.

Heavy Equipment:

Specified by Nordic Air (HDT Global), a leading manufacturer of military-grade mobile HVAC systems, Metalphoto nameplates, service schematics and control panels are designed to withstand installation in harsh military and industrial operating environments. Many equipment manufacturers produce Metalphoto labels onsite for on-demand component availability. Metalphoto is also specified for mobile flight line air-conditioning, shipboard cooling systems and mobile power generation.

Drilling Systems:

On-shore and off-shore oilfield drilling equipment must survive challenging environmental and operating conditions. Metalphoto offers the confidence of lasting readability for regulatory, financial and maintenance compliance. Whether a calibration tag, chemical/salt spray resistant barcode label or custom machine control panel, Metalphoto is designed to survive harsh oilfield conditions.



Brady Offerings

Size (in)	Mil Thickness	Finish	Color	Min Hole Size
12"x20"	0.005"	Matte	Black or Silver	0.0625"
12"x20"	0.005"	Satin	Black or Silver	0.0625"
20"x24"	0.020"	Matte	Black or Silver	0.0625"
20"x24"	0.020"	Satin	Black or Silver	0.0625"
10"x12"	0.020"	Matte	Black or Silver	0.0625"
12"x20"	0.003"	Matte	Black or Silver	0.0625"
20"x24"	0.008"	Matte	Black or Silver	0.0625"
20"x24"	0.012"	Matte	Black or Silver	0.0625"
20"x24"	0.032"	Matte	Black or Silver	0.0625"
20"x24"	0.039"	Matte	Black or Silver	0.0625"
20"x24"	0.020"	Matte	Black or Silver	0.0625"

Min Size (in)	Max Size (in)
1/2"x1/2"	Sheet size

Adhesives Available
U881 Avery Adhesive
3M 2110C 0.002" premask
3M 467 adhesive
3M 468 adhesive

MATTE
non-reflective
with dull finish



SATIN
semi-gloss medium
reflective material



Performance Characteristics

Because of its ability to perform across a range of challenging environments, Metalphoto® meets an array of government, industrial and military specifications.

Characteristic	Result
Abrasion Resistance	No pronounced image loss, degradation or reduced readability after 7,000 cycles on an abrading wheel
Acid Corrosion	No deterioration or image degradation after 24 hours in 3% nitric acid
Heat Resistance	No legibility loss or degradation when subjected to 1,000°F
Salt Spray Corrosion	No deleterious effect after a 720-hr salt spray (fog) test. 2,6 "Very Good" corrosion resistance after 113 days seawater exposure
Accelerated Light and Weather Resistance	No pronounced deterioration of legibility after 400-hr carbon arc weather-o-meter exposure (≈ 20+ year outdoor life)
Accelerated Oxygen Aging	No discoloration or fading after 96-hr/300 psi/ 70°C oxygen bomb aging
Stain Resistance	No black fading when plates are exposed to tincture of iodine
Cleaning Resistance	No deleterious effects when tested with alkaline cleaners (MILC- 87937 or equivalent) for aircraft surfaces
Low Temperature Resistance	No deleterious effect or image fade after 1 hour at -50°F. No impairment of legibility upon exposure at -67°F
Organic Solvent Resistance	No softening, staining or noticeable fade after 24-hr exposure to: JP-4 fuel, Gasoline, Mineral Spirits, Methyl Ethyl Ketone, Turpentine, Turbine & Jet Fuel, Kerosene, Xylol, Acetone, Toluol, Heptane, Trichlorethylene, MIL-H-5606 Hydraulic Fluid and MIL-L-7808 Jet Engine Oil
Fungus Resistance	Visual reading of "0" per ASTM-G21
Thermal Shock	No deterioration after 3 cycles between -65°C and 125°C
Moisture Resistance	No deterioration after 10 humidity cycles per MIL-STD-202, method 106.

**When the application requires the nameplate be exposed to heat up to 750°F for short periods of time and/or requires extended outdoor life in direct sunlight, then Image Intensification shall be part of the material callout.*

Industry Specifications & Studies

Boeing Commercial Aircraft Company

Boeing Process Specification BAC5875
Fabrication of Aluminum Markers, Instrument Panels, Drawer Front Panels and Fabrication of Metal and Plastic Appliques

Lockheed Martin

Fabrication of UID Nameplates of Aircraft Items
LMA-PN010

Honeywell, Inc.

Satellite Systems Operations
Metalphoto approved for use on Space Station
Memorandum A3-J024-M-9501786
Laboratory Case 161311

SAE Technical Paper Series 2000-01-2437

Special requirements for Crew Interface Labels on the International Space Station
Stephen Gray & Fernando Ramos - Boeing

UL & CSA

Underwriter Laboratories

Marking and Labeling Systems PGDQ2
Marking and Labeling System MaterialComponent
PGGU2.MH26206

U.S. Government Specifications & Studies

Department of Defense

MIL-A-8625F
Anodic Coatings for Aluminum & Aluminum Alloys
Type II Class 1 (unprocessed or clear)
Class 2 (processed)

Department of Defense

MIL-STD-13231
Standard Practice
Marking of Electronic Items

Department of Navy

Laboratory evaluation of label plate materials and attachment methods considered for use on LPD-17
CARDIVNSWC-TR-62-00-05 June 2000

USA

Customer Service: 1-888-272-3946
Inside Sales: 1-888-311-0775
BradyID.com

Canada

Customer Service: 1-800-263-6179
BradyCanada.ca

Mexico

1-800-262-7777
Inside Sales: 1-800-262-7777 ext 177
BradyLatinAmerica.com

To order, call 888-272-3946 or visit
www.BradyID.com/metalphoto for more information



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