

# Photo Anodized Foil Labels Specifications

Material: .003" thick matte anodized aluminum is standard. .005" thick matte anodized aluminum is optional.

Bar Codes: All alphanumeric bar codes are photo imaged with a human-readable equivalent. Guaranteed no skips in sequence. Code 39 with 2.7 to 9.4 characters per inch (CPI) is standard. Other bar code symbologies including Code 128, I 2 of 5, and DataMatrix as well as OCR characters and CPIs available.

Label Copy: The printed label copy may include block type, stylized type, logos or other designs. All black copy is produced photographically. Colors other than black are screen printed.

Colors: Choose black only or one of our standard colors (red, blue, green, or yellow) for block style type, stylized type, logos or other designs. Due to the contrast needed for the bar code scanner, all bar codes are black. Color samples are available upon request.

Finish: All black copy and bar codes are sealed in an anodic layer to resist defacing, abrasion, and environmental conditions.

#### Standard Sizes:

No. 254: 1 1/4" x 1/2"  
No. 033: 1 1/2" x 3/4"  
No. 123: 1 3/4" x 1/2"  
No. 330: 2 3/8" x 1"  
No. 029: 1 3/4" x 5/8"  
No. 136: 2" x 9/16"  
No. 191: 2" x 5/8"  
No. 285: 2 3/4" x 1 1/2"  
No. 277: 2 x 3/4"  
No. 019: 2" x 1"  
No. 264: 2" x 1 1/2"

There are over 200 other sizes available upon request.

Adhesive: Pressure-sensitive acrylic adhesive (-MC53LE), .0035" thick, supported by a liner. Stabilized with glass fibers to increase the structural strength of the adhesive. Provides an excellent bond to plastic or powder coated metal surfaces and a very good bond to bar metal surfaces. Also bonds very well to slightly oily surfaces or those plastics that may have a mold release. Will withstand temperatures from -40°C to 300°F (intermittent). Shelf life of 24 months when stored at 72°F (22°C) and 50% relative humidity.

Packaging: Shipped in peel-off strips for easy removal. Both cartons and trays are clearly marked to indicate serial numbers of contents. Pressure-sensitive adhesive orders are shipped with cleaner and application instructions.

Shipment: 5 work days (Black-Type, Black-Designed), 10 work days (Color-Designed) upon receipt of order and proof approval.



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# Photo Anodized Foil Labels



Durability, reliability and versatility – all in one product!

Photo Anodized Foil Labels are ideal for customers who require a flexible label that will conform to most surfaces, yet need a product that will withstand harsh conditions including chemicals, abrasion, solvents, and high temperatures.

Photo Anodized Foil Labels are available with or without a bar code. Black copy, logos and bar codes are photographically reproduced for maximum clarity and detail and then sealed within the anodic layer of the aluminum – ensuring accurate and reliable reads for years to come. Optional second colors are screen printed.

This product is just as effective in the office of a manufacturing plant as it is on the production floor. Uses and applications for this product are limited only by the customer's imagination and with approximately 200 die sizes chances are very likely we will have just the size you need. From tool control to calibration to original equipment identification Photo Anodized Foil Labels are more than up to the task.



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## Key Product Features

- Conforms easily to radius surfaces
- Photographically reproduced black copy, logos and bar codes ensure accurate and reliable reads
- Anodizing process protects black copy, logos and bar codes from chemicals, abrasion and high temperatures
- Adhesives specially matched to surface for maximum adhesion
- Nearly 200 sizes means no extra tooling charge

Not sure what product you need?  
Call our trained experts!

800-344-4332



# Photo Anodized Foil Labels Performance Information

Photo anodized aluminum bar codes are known for maintaining their readability in a wide range of environments and uses. They perform better than other types of labels and nameplates in demanding environments with the exception of those environments that chemically attack aluminum, such as highly caustic or highly acidic applications. Recommended performance is in a pH range of 5.5 to 8.5.

The chart included with this information will help determine if anodized aluminum is right for your application. Always test a sample in your exact environment to ensure performance. Tests were conducted in laboratory environments and may or may not simulate your conditions.

## Temperature Tests

Product Tested	Test Conditions	Effect on Readability
Standard Photo Anodized	60 hours 375 °F	Dark reflectance is reduced at these thresholds. This can affect readability.*
Image Intensified Photo Anodized	265 hours 500 °F	
	90 hours 600 °F 60 hours 700 °F	

## Ultraviolet Exposure Tests

Product Tested	Test Conditions	Effect on Readability
Standard Photo Anodized	Weatherometer, 5 years equivalent	Reduced overall readability after these thresholds.*
Image Intensified Photo Anodized	Weatherometer, 20 years equivalent	

## Abrasion Tests

Product Tested	Test Conditions	Effect on Readability
Standard and Image Intensified Photo Anodized	Plates were brushed for 7000 cycles with a stiff nylon wheel (C-17) at a 1000 gm (16 oz.) load	Reduced overall readability after this threshold.*

## Environmental, Chemical Atmosphere & Contact Tests

Characteristics	Test Conditions	Result
Acids and Bases	Ammonium Hydroxide 2 hours at 1%, 2 hours at 5%	Slight dulling of image; affects overall readability*
	Ferric Chloride, 10%, 16 hours	No effect
	Nitric Acid, 1%, 40 hours	No effect
	Phosphoric Acid, 1%, 40 hours	No effect
	Sodium Hydroxide	Affects overall readability
	Sulfuric Acid, 10%, 24 hours	No effect
Cleaning Agents	Water	No effect
	Tetra sodium pyrophosphate, 1%, 40 hours	No effect
	Trisodium Phosphate	No effect
Fungus Resistance		Visual reading of "0" per ASTM-G21
Moisture Resistance		No deterioration after 10 humidity cycles per MIL-STD-202, method 106
Low Temperature Resistance		No deleterious effect of image fade after 1 hour at -50° F. No impairment of legibility upon exposure at -67°F.
Organic Solvents	Ethyl Alcohol	No effect
	Heptane, 72 hours	No effect
	Hydraulic Fluid	No effect
	JP-4 Fuel	No effect
	Kerosene	No effect
	Methyl Ethyl Ketone	No effect
	Skydrol	No effect
	Turbine sodium pyrophosphate, 1%, 40 hours	No effect
Salt Spray Corrosion	Salt Spray, 5% at 95°F, 700 hours	No effect; "very good" corrosion resistance after 113 days seawater exposure
Stain Resistance		No black fading when plates are exposed to tincture of iodine
Thermal Shock		No deterioration after 3 cycles between -65°C and 125°C

\*Bar code labels and nameplates exhibit reduced readability when they cannot be read from the same distances and/or angles as before they were degraded. In most cases the print contrast ratio has been reduced. Labels and nameplates may read, but they may require more attempts to read or may read at limited distances and/or angles.

Photo anodized bar code labels and nameplates read reliably in demanding situations. Different results may be experienced due to variances in reader type, reader distance, cleanliness of part surface or label or nameplate design. Please test a sample part for your application.