

Introduction

Our sub-surface print process is the key to our durability. Weather-proof, heat, solvent and scratch resistant images sealed in anodised aluminium. Exceptionally durable, widely specified, always readable. Our anodised aluminium products are tough labels made for tough places. Metal Image have been the leaders in Durable Product Identification for almost four decades. We are proud of what we do, enjoy what we do, and we're good at it.

Anodised Aluminium Applications

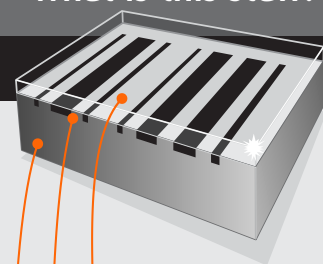
- UID/Defence Bar Code Labels
- Machine Panel Fronts
- Nameplates
- Data Plates
- Writing Diagrams & Schematics
- Badges
- Wayfinding Signs
- Labels
- Plaques & Awards
- Interior/Exterior Signage
- Long-Term Asset Tags
- Equipment Labels

Metalphoto

Metalphoto Performance Characteristics - 1100 SERIES ALLOY
Meets many DoD requirements including MIL-STD-130N, GGP-455B, MIL-A-8625F and MIL-DTL-15024F

Characteristic	Result
Abrasion Resistance	No pronounced image loss, degradation or reduced readability after 7000 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 1000°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 weatherometer exposure.
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.

Anodised Aluminium. What is this stuff?



Anodic Layer

The glass-clear, sapphire-hard anodised layer resists chemicals, paint, abrasion and dirt.

Sealed Image

The printed graphics are trapped deep in the pores of the anodised aluminium.

Base Aluminium Layer

The corrosion resistant aluminium base will not peel, crack or delaminate.

Industry Specifications & Case 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

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

NASA, Johnson Space Center, Texas

Space Station Inventory Label Specification - SSP 50007

Department of Defense

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

Alichroma

Specifications of DuraSeal Anodised Aluminium Sheets

Dura Seal25 sheets meet the standard of the following specifications:

Mil.spec. A.8625 A type II coating	Fed.Std. G.G. P.455B (10.7.1972) type II, class I (class II not standard) (3.5. - 3-7-1- t/m 3.10- 6.1 - 6.5.3.)
Mil.spec. P.514C (15.s.1963) (3.2.1. + 3.2.2. Grade B)	
Mil.spec. P.514D (15.9.1966) (3.2.2. + 3.6.)	

The products made with DuraSeal25 and after treatment provided with an “adhesive backing” meet Mil.spec. P.19834B.

This is to specify the properties of products made from DuraSeal25 anodised aluminium sheets according to the working instructions for the product which are issued by the manufacturer of the sheets.

Images Black BK 10 B - Silver Blue BE 06 B - Silver Red RD 09 B - Silver Yellow YW 02 B - Silver	Images Yellow YW 01 B - Silver Orange OE 03 B - Silver Red RD 07 B - Silver Red RD 08 B - Silver Blue BE 05 B - Silver Green GN 04 B - Silver
Exterior Exposure Exceeding : 6 years Exceeding Weatherometer : for 400 hrs. Test GG -455b	Exterior Exposure Exceeding : 3 years Exceeding Weatherometer : for 150 hrs Test GG -455b

Alichroma Performance Characteristics - DuraSeal25

For all images in mono and multicolour:

Abrasive Resistance	Taber - Abraser with CS 17 wheel Load: 1000 gr. Cycles pro hr: 7000	SLIGHT DULLING
	Pighairbrush + water + talcum powder. Load: 1000 gr. Cycles pro hr: up to 24000	NO EFFECT
Temperature Resistance	500°C 300°C for 12 hrs	BLEACHING within 2 minutes. NO EFFECT
Salt spray	5% at 40°C for 700 hrs	NO EFFECT
Mil -S -3136 Hydrocarbon Fluid	700 hrs immersion	NO EFFECT
Mil -S -5161 Turbine + Jet Engine fuel	700 hrs immersion	NO EFFECT
Kerosene	700 hrs immersion	NO EFFECT
Skydroll	700 hrs immersion	NO EFFECT
Methyl Ethylketone	700 hrs immersion	NO EFFECT
Ethyl acetate	700 hrs immersion	NO EFFECT
Xylol	700 hrs immersion	NO EFFECT
Heptane	700 hrs immersion	NO EFFECT
Ethyl alcohol	700 hrs immersion	NO EFFECT
Ferric chloride	10% solution 24 hrs	NO EFFECT
Ammonium Hydroxide	10% solution 10 hrs	DULLING
Mil -P -21563	Soap solution 16 hrs	NO EFFECT
Mil -C -25179 AIN in Heptane	25% solution, 1 min (cleaning solution)	NO EFFECT
Sulphuric Acid	10% solution, 24 hrs	NO EFFECT
Phosphoric Acid	1% solution, 12 hrs	NO EFFECT
Nitric Acid	3% solution, 72 hrs	NO EFFECT
TSP	1% solution, 40 hrs	NO EFFECT