

METALPHOTO OVERLAYS

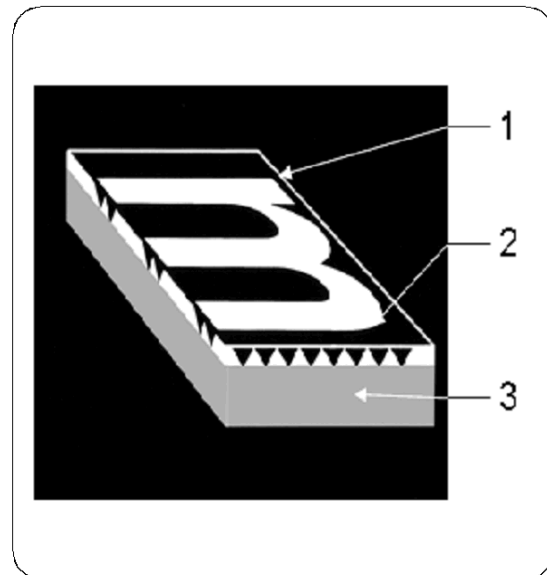
Metalphoto is the process through which aluminum is anodized and an overlay graphic is embedded into the anodized layer. This protects the graphic against any chipping, abrasions, chemical or industrial solvents.

The figure to the right illustrates the Metalphoto process, each layer is explained below.

1. **Anodized Layer** – The glass-clear, sapphire-hard anodized layer resists chemical abrasion and dirt.
2. **Seal Image** – The black graphics are metallic silver particles that hold up to extreme heat and sunlight exposure.
3. **Aluminum Layer** – The rigid aluminum base will not peel, crack or delaminate.

This technology is ideal for severe environment conditions where extreme temperatures, rough handling, or chemical exposures are likely.

Metalphoto materials meet military specifications and are available in multiple thicknesses, finishes and sizes.



Metalphoto Figure

Metalphoto aluminum overlays can be die-cut, punched or sheared to your specifications. Black graphics are the standard. However, there are a limited number of options for producing colored backgrounds or graphics. When choosing your colors, please be aware that other colors besides black are susceptible to fading when exposed to direct sunlight.

The durability characteristics for Metalphoto material are listed on page two (2) of this bulletin and pertain to black images only.

| METALPHOTO FAMILY OF PRODUCTS - DURABILITY CHARACTERISTICS | | | | | | | |
|------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------|------------------------|---------------------|-----------------------------------------------------|------------------------------------|--------------------|
| DURABILITY CODE: "E" - Excellent "G" - Good "N/R" - Not Recommended | | DURABILITY CHARACTERISTIC | | | | | |
| DESIRED RESULT | NAME OF PRODUCT | Outdoor Exposure | Temperature Resistance | Abrasion Resistance | Salt Spray as long as Galvanic Corrosion is avoided | Chemicals except in strong Alkalis | Solvent Resistance |
| Black & Silver Plates | Metalphoto (Image Intensified) | E | E | E | E | E | E |
| Black & Silver Plates | Metalphoto (Not Image Intensified) | E | G | E | E | E | E |
| Adding Background Colors | Background Colors (Sunfast Gold and Classic Gold) Not Image Intensified | E | E | E | N/R | E | E |
| Adding Background Colors | Background Colors (All Others) | N/R | N/R | E | E | E | E |

| GOVERNMENT SPECIFICATIONS | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| SPECIFICATION | METALPHOTO PRODUCTS THAT MEET SPECIFICATION |
| GG-P-455B Type I Grade A or B | All Thicknesses and Finishes: Grade A - Image Intensified Only; Grade B - With or Without Image Intensification |
| GG-P-455B Type II Grade B | N/A |
| Mil-P-15024D Type H | Minimum .020" Thick Material that has been Mechanically Fastened; or .012" or .020" Thick Material with Adhesive |
| Mil-P-514D Class 2 Composition C | .020" Thick Material Only Unless Otherwise Specified |
| Mil-P-19834B Type I and II | .003" Thick Material with Proper Adhesive |
| Mil-A-8625E Type II | All Thicknesses and Finishes |

| INDUSTRY SPECIFICATIONS | |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UL RECOGNITION | DESCRIPTION |
| FILE # MH17767 June 1993 | Component - Marking and Labeling System Materials - PGGU2 Marking and Labeling material face stock Metalphoto photo-sensitized anodized aluminum. For producing finished printed labels when combined with a suitable laminating adhesive. |