

Technical Data Page

Scope: Technical product description of mill finish black anodized and dyed aluminum sheet

Product Specifications

Thickness: .012"- .063" Alloy: 5005 Temper: H34 Finish: mill Product code: 004 MX

Chemical Composition Limits

| Silicon | Iron | Copper | Mang- anese | Magn- esium | Chrom- ium | Zinc | Others | Aluminum (min.) |
|---------|------|--------|----------------|----------------|---------------|------|--------|--------------------|
| 0.30 | 0.07 | 0.20 | 0.20 | 0.5 – 1.1 | 0.10 | 0.25 | 0.15 | Rem. |

Mechanical Property Limits

Ultimate tensile strength: 20.0 ksi minimum

Surface finish:

The surface of the metal is unchanged from rolling. This finish, commonly called "mill finish" is a decorative, uniform surface desirable for a number of different applications.

Anodizing:

The aluminum has a uniform anodic coating that has been produced with sulfuric acid anodizing. The black color has been achieved by immersion dyeing in an aqueous dye, prior to the final sealing step.

Anodizing is an electrochemical process of aluminum oxidation that results in a coating that is sapphire hard, transparent, insulative, static resistant, and integral with the aluminum surface. The nominal anodic coating weight on this product is 9.5 milligrams per square inch. The anodizing meets MIL-A-8625, Type II, Class 2.

Shelf life:

Shelf life is indefinite. It is, however, recommended that the material be properly stored at room conditions with 50% humidity.

Environmental performance:

Light fastness:

Light fastness of a dyed anodic layer is affected by the qualities of the dye, the depth of the anodic layer, the integrity of the seal, and the amount of exposure to ultra violet rays.

While the anodic layer will not be adversely affected by conventional UV exposure, the black dye is an organic and will experience some fading over time and exposure. The amount of fading will be determined by the above stated factors. For this reason, we do not recommend this product for use in an outdoor application in direct sunlight.

Temperature resistance:

Continuous or frequent high temperatures in excess of 200°F can result in the loss of color (due to the destruction of the dye), yellowing, and microcracking of the surface of the aluminum sheet. This is a visual effect and will not impair the performance of the anodic layer. Very high heat may cause the aluminum itself to soften or anneal, and the surface to turn brown.

Extremes of cold will not affect the appearance of this product.

Chemical resistance:

The anodic surface is resistant to most solvents, oils, and household chemicals. Strongly alkaline and strongly acidic solutions should be avoided.

It is recommended that the end user, prior to its actual use, determine the suitability of this product for a particular application. All the preceding statements, properties and recommendations are believed to be accurate, but are not guaranteed.

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