



1.0 Scope

This specification shall apply to hot dip metallic coated sheet steel prefinished with colours of proven durability and suitable for exterior exposure as delivered from the coil coater.

Metallic/Elite Series 4-coat paint systems are designed for sidewall and roofing applications in the construction market that are the most demanding for aesthetic performance; Metallics for flat architectural panels, and Elite for accent applications.

The paint system is based on licensed polyvinylidene fluoride (PVDF) Kynar 500® or Hylar 5000® (trade names for equivalent PVDF resins) technology.

2.0 Base Metal

The base metal furnished before painting shall conform to one of the following specifications:

- (a) ASTM A653 / ASTM A653M for Zinc coated steel (galvanized)
- (b) ASTM A792 / ASTM A792M for 55% Aluminum-Zinc alloy coated steel (Galvalume™).

3.0 Paint Qualification Tests

3.1 Film Thickness

Paint film thickness shall be measured by analysis of a precisely cut shallow angled crater. The exposed surface shall have a minimum dry film thickness of 5 microns (0.2 mils) primer, 18 microns (0.7 mils) barrier coat, 15 microns (0.6 mils) colour/metallic topcoat and 11 microns (0.45 mils) clear coat. The unexposed (reverse) side shall have

a dry film thickness which will vary in accordance with customer requirements.

Test Method: ASTM D5796

3.2 Film Hardness

Hardness of the paint film shall be measured by means of Eagle/Berol turquoise T-2375 or equivalent pencils using a flat round head applied at a 45° angle to the paint film. A hardness of HB-H shall be obtained. Pencil hardness is specified as the first pencil number that will not rupture the paint when tested as described above.

Test Method: ASTM D3363

3.3 Formability/Adhesion Test

When using a representative sample at 25°C +/-2°C (77°F) and using #610 scotch cellophane tape, the paint system shall show no loss of adhesion when subjected to a 2T 180° bend test.

Test Method: ASTM D4145

This requirement does not apply to material which is ordered as ASTM A653 or A792 Grade 80 and Grade 550.

3.4 Gloss

The specular gloss shall be 30 +/- 5 gloss units when measured with a 60° Glossmeter. A lower gloss is available upon request. When other than the standard gloss is ordered, the gloss range shall be mutually agreed upon prior to purchase.

Test Method: ASTM D523



3.5. Humidity resistance

After 1500 hours of exposure to 100% relative humidity at a temperature of 38°C (100°F) the surface may show only a few scattered blisters no larger than No. 8 per ASTM D714.

Test Method: ASTM D2247

4.0 Exterior Exposure (Weathering)

Each proven colour of Metallic/Elite Series will meet the following weathering standards. Standards are applicable in the absence of aggressive fumes and/or other chemicals not normally encountered in the atmosphere. Weathering standards are limited to installations located in Canada and the continental United States.

4.1 Film Integrity

During the first 40 years on vertical (walls) and non-vertical (roofs) applications, the paint film shall have no evidence of cracking, flaking or checking to an extent that is apparent in ordinary outdoor visual observations.

4.2 Chalking

Within the first 40 years after application the degree of chalking will not exceed rating #8 for vertical and non-vertical applications when measured per ASTM D4214, Method A.

4.3 Colour Change

Within the first 40 years after application the change in colour will not be greater than five colour units for vertical and non-vertical applications. Colour measurements are to be made per ASTM D2244 and only on clean surfaces after removing surface deposits and chalk per ASTM D3964.

Colour change is measured using any accepted colour spectrophotometer designed to produce reflectance readings in the Tristimulus Filter System on X, Y and Z based on the CIE values of illuminant C and measured in Hunter L, a and b units.

5.0 Product Attributes and Applications

Metallic and Elite Series are fluoropolymer 4-coat systems comprised of a PVDF barrier coat, colour coat and clear top coat on a corrosion inhibiting primer. The coatings are formulated with a minimum of 70% Kynar 500 or Hylar 5000 PVDF resins with proven pigmentation for maximum colour retention.

Metallic and Elite Series will help you realize your building design with metallic finishes and vivid accent colours not available in 2-coat systems. This Series is available in smooth finishes with low gloss in custom and standard colours.

Metallic or Elite Series pre-paint should be your choice for storefronts, building panels, curtain walls and other building features requiring long lasting unique architectural finishes.

Metallic and Elite Series have excellent flexibility to withstand roll-forming operations and are abrasion resistant for transportation, installation and general handling. Inherent chemical resistance provides protection against staining and degradation in normal and aggressive environments including atmospheres with acid rain and industrial pollutants. The smooth surface results in good resistance to dirt pick-up requiring very little maintenance. The 4-coat paint system also provides barrier protection against corrosion.

For Metallic Series, orientation of pigments during application of the colour coat results in directional appearance. Planning and care must be taken during installation to ensure all pieces are consistently positioned with respect to the rolling direction indicated on the interior side. In addition, to avoid slight colour variation, orders should be placed such that your Metallic or Elite Series product is from the same production lot. Use of chrome plated tooling is recommended when processing Metallic or Elite Series to prevent metal marking. Metallic and Elite Series may not be recommended for installations where corrosion protection is the principle concern.

The recommended minimum coating mass designations for use in exterior building applications are stated in ASTM A755/A755M. Metallic and Elite Series also meet the performance requirements of AAMA 621-02.

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