

1. **Product Name**

NSMS (National Sheet Metal Systems) - Kynar 500®/Hylar 5000® Prefinished Steel and Aluminum, primed and coated sheet.

2. **Supplier / Manufacturer**

National Sheet Metal Systems, Inc.
2964 Alcove Drive
Scottsdale, GA 30079
Ph# 404-298-9710
Fx# 404-298-9720

3. **Material Description**

National Sheet Metal Systems prefinished steel and aluminum is an Aluminum Association specification sheet or commercial quality extra-smooth galvanized steel. It is primed and coated with a full strength fluoropolymer (containing a minimum of 70% Kynar 500 or Hylar 5000 resin) system of 1.0 +/- 1 mil total dry film thickness and, on the reverse side, a wash coat of 0.3 to 0.4 mill dry film thickness. A strippable vinyl masking (film) is available for protection during fabrication and installation if desired. The strippable vinyl masking must be removed immediately before or after installation.

Basic Use: NSMS sheet goods are for general sheet metal use in building applications. It is used fascia, coping, flashings, gravel stops and various other formed products.

Limitations: Because NSMS sheet goods are of a paint finished material, care must be taken during fabrication and erection to avoid damage to the surface. Tools must be clean and properly dressed, and proper bend radii must be used in fabrication (if applicable). Care must be taken to avoid scratching or marring the finish. The performance of this material in the field depends substantially on the integrity of the coating film, and in galvanized steel, on the underlying coating of zinc being intact. Therefore, NSMS materials should not be used in areas of high abrasion or where it will be subject to mechanical damage.

Composition and Materials: NSMS sheet and sheet metal products consists of Aluminum Association specification sheet with tempers of H14 and H34, or hot-dipped galvanized steel of commercial weight (AISI G-90 designation) coated with a two-coat system using a combination of 70% Kynar 500 / Hylar 5000 polyvinylidene fluoride PVDF, acrylic resins, Pigments and solvents. The system consists of a top-coat applied over a epoxytype reamer. A wash coat is applied to the reverse side for additional protection.

Standard Sizes: Aluminum is available in gauges from .032" (0.8 mm) to .080" (2 mm). Galvanized steel is available in 24 ga. (0.7 mm) and 22 ga.

Colors: Refer to NSMS color chart. Colors other than standard available on finished product *only* upon request.

Finish: SMOOTH Dull Matte Specular Gloss 25-35 at 60° viewing angle; TEXTURED (stucco embossed).

Applicable Standards: ASTM B 209 aluminum alloy sheet or ASTM A 446-76 Grade A zinc coated galvanized steel of structured quality. Standard Gauges: 24 gauge (0.7 mm) Galvanized Steel, .032" (0.8 mm) to .080" (2 mm) Aluminum.

4. **Technical Data**

Material:

Aluminum - ASTM B 209, aluminum and aluminum alloy sheet and plate.

Steel - ASTM A 446, steel sheet, zinc coated (galvanized) by the dipped process, structural physical quality.

Steel - ASTM A 525, steel sheet zinc coated by the hot dip process.

Base Metal-

	Aluminum	Galvanized Steel
Minimum Yield	21,000 PSI	33,000 PSI
Coefficient of Thermal Expansion	12.8 x 10 ⁻⁶ in/in/°F	6.7 x 10 ⁻⁶ in/in/°F
Modulus of Elasticity	10.0 x 10 ⁶ KSI	29 x 10 ⁶ KSI
Specifications	Aluminum Association	ASTM E 111 -61 (1978)

Textures: NSMS materials and products are available with a SMOOTH surface, or a standard E-5 stucco embossed pattern. Note: Stucco embossed available at extra cost.

Technical Data for Kynar 500® or Hylar 5000® Coatings:

Life Expectancy - 20 years exposure - Chalk: rating of 8 or better.

Color: ≤ 5 ΔE (Hunter Units) change.

Accelerated Weathering - (ASTM G 23 Type EH) 5,000 hours - Chalk: rating of 8 or better. Color: ≤ 5 ΔE (Hunter Units) color change.

Humidity Resistance - (ASTM 2247) 1,000 hours - No change in pencil hardness.

Salt Spray Resistance - (ASTM B 117) - 2,000 hours for aluminum, creepage at scribe ≤ 1/32", no blisters. 1,000 hours for hot dipped galvanized, creepage at scribe ≤ 1/8", few #8 blisters.

Chemical / Acid Pollution Resistance - (ASTM D 1808) - Pass.

Solvent Resistance - (NCCA procedure II-18, no comparable ASTM test) - Pass.

Formability - (ASTM D 3281 and ASTM D 1737) – Can be formed without film fracture using normal shop practices to a 1 ro 2-T bend radius.

Hardness - (ASTM D 3363) ≥ F pencil hardness

Gloss - 30 ± 5 at 60° (low gloss/sheen available).

Abrasion Resistance - (ASTM D 968) - Coefficient of 65 ± 10.

Adhesion - (ASTM D 3359 and NCCA procedure No. II-5) - Pass.

Impact Resistance - (ASTM D 2794 and NCCA Technical Bulletin No. II-6) - 70 inch/lbs., no tape pick-off.

5. **Installation**

Install in accordance with recognized sheet metal practices. NSMS materials can be cut, formed, nailed, screwed or riveted using conventional hand or power tools. Paint finish must be mechanically removed if soldering or welding are necessary. For best results, cutting edges of tools should be kept sharp, clean, properly dressed and closely aligned. Strippable vinyl masking (film) may remain on the coating during fabrication and erection. Vinyl masking must be removed immediately before or after installation.

6. **Availability and Cost**

Availability - Orders for *stock items* and *colors* are available within 72 hours.

However, special orders and or fabrications may require from 7 to 10 working days. Delivery time (lead time) and price will be quoted upon inquiry. Consult NSMS for availability of custom colors.

Cost - NSMS cost is generally less than shop-fabricated products of equal size, color, and material. Sheet product is generally less than 60% of copper roofing sheet per square foot, 25% to 50% less than hardcoat anodized finishes, and approximately equal to field painted galvanized steel. For specific costs or job quotations, please contact National Sheet Metal Systems, Inc. at 404-298-9710.

7. **Warranty**

Life expectancy of Kynar 500 / Hylar 5000 finishes is twenty (20) years plus. A 20 year, non-prorated warranty covering color, fade, chalking and finish integrity is available upon request, at no extra charge. Upon furnishing NSMS with jobsite location, building owner name, and installing contractor name, the warranty will be issued.

8. **Maintenance**

Maintenance is not required. This finish is a member of the Teflon family and is self-cleaning. If cleaning is desired, it can be washed with mild soap and water, followed by a clean water rinse.

9. **Technical Services**

Technical services are available from National Sheet Metal Systems, Inc during normal business hours.