



ALFLEX FLAT SHEET 0.040" (1mm) TECHNICAL DATA SHEET

COMPOSITION

| | |
|----------------------|----------|
| Aluminum Plate Alloy | 3003-H14 |
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STANDARD SIZES

| PROPERTY | VALUES | UNITS |
|--|-------------|-------|
| Standard Thickness <i>(nominal)</i> | 0.040 | in |
| | 1.0 | mm |
| Standard Width | 48.0 | in |
| | 1,220 | mm |
| Custom Width Range | 31.5 - 62.0 | in |
| | 800 - 1600 | mm |
| Standard Length <i>(max)</i> | 120 | in |
| | 3050 | mm |

PRODUCTION TOLERANCES

| PROPERTY | VALUES | UNITS |
|-----------|-----------|-------|
| Width | +/- 0.080 | in |
| | 2.0 | mm |
| Length | +/- 0.157 | in |
| | 4.0 | mm |
| Thickness | +/- 0.004 | in |
| | 0.10 | mm |

ASTM B209 COMPLIANCE: 3003-H14 ALUMINUM

CHEMICAL COMPOSITION

| ELEMENT | STANDARD | RESULTS |
|----------------|---------------|---------|
| Aluminum | Remainder | 97.75% |
| Copper | 0.05% - 0.2% | 0.17% |
| Iron | 0.0% to 0.7% | 0.56% |
| Manganese | 1.0% - 1.5% | 1.19% |
| Silicon | 0.0% to 0.6% | 0.18% |
| Zinc | 0.0% to 0.1% | 0.00% |
| Other Elements | 0.0% to 0.15% | 0.15% |

MECHANICAL PROPERTY LIMITS

| PROPERTY | STANDARD | RESULTS |
|----------------|-------------------------|----------|
| Tensile (ksi) | 20 ksi min - 26 ksi max | 21.4 ksi |
| Yield Strength | 17 ksi min | 18.5 ksi |
| Elongation | 2% Min | 25% |

FINISH WARRANTY

See warranty tables and sample warranties for conditions and exclusions

| | |
|-------------------------|----------|
| PVDF Coil Coated Finish | 20 Years |
|-------------------------|----------|

TECHNICAL PROPERTIES

| PROPERTY | | VALUES | UNITS |
|----------------------------|---------|-------------------------|--------------------------|
| Panel Weight | | 0.56 | lb/ft ² |
| | | 2.71 | kg/m ² |
| Specific Gravity (Product) | | 2.72 | g/cc |
| Coefficient of Expansion | | 12.9 | in/in/°F (@ 68-212°F) |
| Modulus of Elasticity | ASTM E8 | 10 X 10 ⁶ | Psi |
| | | 69X 10 ³ | Mpa |
| Moment of Inertia | | 5.33 X 10 ⁻⁶ | in ⁴ /in |
| | | 2.12 X 10 ⁻⁶ | cm ⁴ /m |
| Section Modulus | | 2.67X 10 ⁻⁴ | in ³ /in |
| | | 4.23 X 10 ⁻⁵ | cm ³ /m |
| Tensile Strength | ASTM E8 | 20.3 X 10 ³ | Psi |
| | | 140 | Mpa |
| Yield Strength | ASTM E8 | 17.4X 10 ³ | Psi |
| | | 120 | Mpa |
| Elongation | ASTM E8 | 5 | % |
| Thermal Conductivity | C518 | 193 | W/(m•K) |

ARCHITECTURAL COATING PERFORMANCE

AAMA 2605-13 STANDARD COMPLIANCE

70% Kynar 500 / Hylar 5000 PVDF Resin Coatings

| PROPERTY | TEST STANDARD | REQUIREMENT | RESULTS |
|---|---------------|--|--|
| Dry Film Thickness | ASTM D7091 | ≥ 23 microns | Pass - 32 microns |
| Color Uniformity | ASTM D2244 | Max. 2 Delta E | Pass - < 2 units |
| Color Retention - Fade | ASTM D2244 | Delta E ≤ 5 units | Pass - < 5 units |
| Chalk Rating | ASTM D4214 | ≤ 8 units | Pass - < 8 units |
| Specular Gloss | ASTM D523 | ± 5 units | Pass |
| Dry Film Hardness | ASTM D3363 | F - 2H | Pass - 3H |
| Dry Adhesion | ASTM D3359 | No coating removal | Pass - no removal |
| Abrasion Resistance | ASTM D968 | Abrasion Coefficient Value ≥ 40 | Pass - 51 |
| Reverse Impact | ASTM D2794 | No coating removal | Pass - no removal |
| Muriatic Acid Resistance <i>(10% HCl, 15 mins)</i> | ASTM D1308 | No blistering or visual change | Pass - no blistering or visual changes |
| Nitric Acid Resistance <i>(HNO₃, 30 mins)</i> | ASTM D1308 | ≤ 5 Delta E | Pass - 0.2 |
| Alkali Mortar Resistance <i>(10%, 25% NaOH, 60 mins)</i> | ASTM D1308 | No removal. No loss of adhesion or visual change | Pass - no adhesion loss |
| Flexibility | ASTM D4145 | 2T - no pick off | Pass - no pick off |
| Humidity Resistance | ASTM D714 | 4000 hour exposure | Pass - No #8 blisters |
| | ASTM D2247 | Less than "few" blisters Size No. 8 | |
| Cyclic Corrosion | ASTM B117 | 2000 hour exposure. | Pass - 10 rating |
| | AAMA 2605-13 | Min rating of 7 scribe or cut edge Min. blister rating of 8 | |

FIRE PERFORMANCE FOR NON-COMBUSTIBILITY

| STANDARD | STANDARD TEST METHOD | RESULTS |
|---------------|--|------------------------|
| ASTM E136 | Behavior of Materials in a Vertical Tube Furnace at 750°C. | PASS Meets Standard |
| CAN/ULC S114* | Determination of Non-Combustibility of Building Materials | PASS Meets Standard |
| CAN/ULC S135* | Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter | PASS Meets Standard |

* Test Conducted on 3mm Plate