

The qualities of

# POLYDURE® 1000

Performance specifications for oil-free polyester finishes

AkzoNobel



## Application Characteristics

|                           |  |
|---------------------------|--|
| <b>General</b>            | Substrates: Hot-Dipped Galvanized, Galvalume, Galfan and Aluminum. Application: Roll coating of two-coat system. System: Akzo Nobel recommended Proprietary Solvent or Waterborne Primer and POLYDURE® 1000 topcoat, over properly cleaned and pre-treated substrate.        |
| <b>Surface Appearance</b> | Smooth and free of streaks, blistering and other imperfections.  |
| <b>Film Thickness</b>     | Topside finish: Primer (dry) = 0.20 - 0.25 mil; Topcoat (dry) = 0.70 - 0.90 mil. Reverse side finish: Primer (dry) 0.15 - 0.25 mil; Pigmented polyester backer (dry) = 0.35 - 0.45 mil. Total DFT for system = 0.90 - 1.15 mils. All measurements per ASTM D 1005 or D 5796. |
| <b>Topside Color</b>      | Controlled to the Master Standard by an approved Color Difference Meter or Spectrophotometer, and by visual match under daylight and horizon light of a Macbeth Daylight Booth per ASTM D 1729.  |

## Physical Properties

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|---|---|
| <b>Specular Gloss</b>                     | Determined per ASTM D 523 at a glossmeter angle of 60°. Gloss rating per customer nominal specification, ±5% specular reflectance. POLYDURE® 1000 systems are 35% ±5%, but can be made available in both higher and lower gloss ranges upon special request.  |
| <b>Hardness</b>                           | Minimum pencil hardness, using Eagle Turquoise Pencils per ASTM D 3363, is "F".   |
| <b>Cure Test</b>                          | Cured in baking oven to withstand 100 double rubs of a MEK soaked cloth, per ASTM D 5402, to expose primer.   |
| <b>Cross-Hatch Adhesion</b>               | No paint removal with Scotch #610 cellophane tape after cross-scoring with eleven horizontal and eleven vertical lines 1/8" apart, per ASTM D 3359.   |
| <b>Direct and Reverse Impact Adhesion</b> | No visible paint removal with Scotch #610 cellophane tape after direct and reverse impact of 80-inch pounds on 26 gauge galvanized steel, using 5/8" steel ball on a Garder Impact Tester (not to include Zinc coating failures) per ASTM D 2794.   |
| <b>Bend Adhesion</b>                      | Per ASTM D 4145-83, no loss of adhesion when taped with Scotch #610 cellophane tape when subjected to a 2T diameter 180° bend test on 0.017" G-90 (grade D) galvanized steel or fabricator's roll-forming operation. (Not to include Zinc failures.) A forming operation using a "Butler Jig" may be substituted for this test to more closely simulate the roll forming operation. Per ASTM D 522, an 1/8" mandrel bend may also be used to evaluate flexibility, with the same results in flexibility and adhesion. |

## Testing Data

|                                     |  |
|-------------------------------------|--|
| <b>Humidity Resistance</b>          | No blistering, cracking, peeling, loss of gloss or softening of the finish after 1000 hours of exposure to 100% humidity at 100° F ± 5° F, per Federal Test Method Standard 141, Method 6201 or ASTM D 2247.   |
| <b>Cleveland Condensing Cabinet</b> | No blistering or white rust after 240 hours at 140°F, with a 15 - minute dry off period every 6 hours, per ASTM D 4585.  |
| <b>Water Immersion Resistance</b>   | Samples immersed in distilled water at 100°F per ASTM D 870 will exhibit no loss of gloss, blistering, cracking, color changing or softening of finish after 500 hours. After 1000 hours, samples will exhibit no loss of gloss, color change, cracking, and no blistering greater than medium #6 over 20% of test area per ASTM D 714. Slight softening of the finish may be observed when first removed from immersion; original hardness will be regained after 24 hours at room temperature. |
| <b>Salt Spray Resistance</b>        | Samples diagonally scored and subjected to 5% neutral salt spray for 1000 hours, per ASTM B 117, then taped 1 hour after removal from the test cabinet with Scotch #610 cellophane tape, exhibit no blistering and no loss of adhesion greater than 1/8" from score line.  |
| <b>Chemical Resistance</b>          | No significant color change after 24 hours exposure to 10% solutions of hydrochloric and sulfuric acids, per ASTM D 1308-87, Procedure 6.2 (spot test).  |
| <b>Kesternich Test</b>              | No significant color change after 10 cycles in an SO2 chamber (Kesternich Cabinet or equivalent), per ASTM G-87.   |
| <b>Weatherometer Test</b>           | No checking, blistering or adhesion loss of coating system after 2000 hours of accelerated weathering, per ASTM D 822, G 152 and G 153.  |
| <b>Color Change</b>                 | Finish coat color change not to exceed 5 NBS units per ASTM D 2244 test procedure, after 2000 hour weatherometer test.   |
| <b>Chalking Resistance</b>          | No chalking greater than #8 rating per ASTM D 4214, Method D, after a 2000 hour weatherometer test.  |
| <b>Exterior Weathering</b>          | Florida exposure (45° South) and EMMAQUA testing, per ASTM D 4141, Procedure C, both confirm the excellent exposure characteristics of POLYDURE® 1000 systems.   |
| <b>Abrasion Resistance</b>          | Per ASTM D 968, Method A, POLYDURE® 1000 will pass 30 liters/mil, minimum, of falling sand.  |
| <b>Flame Spread Rating</b>          | POLYDURE® 1000 displays a flame spread classification of A (Class 1), when tested in accordance with ASTM E 84.  |

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