

DURANAR® ULTRA-Cool® heat reflective coating system

PPG Industrial Coatings has produced a new, premium cool coating for metal substrates, called DURANAR ULTRA-Cool coatings. It is premium because it is based on a minimum of 70% PVDF resin technology*. It is new because it dramatically increases the reflectivity of darker colors to such a degree that the product will meet the Cool Roof Rating Council (CRRC) and Energy Star® roofing specifications for Cool Roofs. PPG is a CRRC member and an Energy Star partner and has qualified DURANAR ULTRA-Cool coatings for the CRRC and Energy Star program.

Architects and builders have long known the value of metal roofing. It is virtually seamless; it is light in weight; the coating systems are durable and won't fade, and the color choices are much broader than with any other material. Metal roofing is also produced in an environmentally friendly way and it is definitely the material of choice for re-roofing projects. To these strong arguments we can now add - **more heat reflective than most other roofing materials of similar color**. One additional percent of reflectivity in a coating, on average, will reduce roof temperature by one degree.

It's the best of both worlds – aesthetic freedom and energy efficiency. DURANAR ULTRA-Cool coatings bring new flexibility to your choice of colors, a full palette of reflective coatings for commercial and residential roofs. DURANAR ULTRA-Cool coatings reflect heat away from buildings, so interior space is cooler. That means considerably lower energy costs. Even with medium to dark colors, DURANAR ULTRA-Cool coatings can help your roof meet the Energy Star specifications for Cool Roofs. Smart colors, smart savings – that's DURANAR ULTRA-Cool coatings.

DURANAR Coatings - A Premium Coating System

Specifications and Procedures

Description

DURANAR coatings are premium fluoropolymer (PVDF) coating systems. When applied and cured on properly prepared substrates, DURANAR coatings exhibit exceptional color stability, chalk resistance, durability, abrasion resistance, chemical resistance and flexibility.

Composition

DURANAR coatings shall contain a minimum of 70% fluoropolymer resin.

Substrates

TruZinc® Hot-dipped galvanized steel • Zinc/aluminum coated steel • Aluminum

Pretreatment

All substrates are to be pretreated in accordance with manufacturer's instructions. The pretreatment is to provide a suitable surface for application of the recommended primer. All systems are subject to prior approval.

Application

The DURANAR coating system, including primer, is to be applied by coil coaters experienced in handling Kynar 500® or Hylar 5000® coatings*. Application and curing will be performed according to written procedures of PPG.

Colors

DURANAR coatings are available in a wide selection of preformulated standard colors, a sampling of which is shown on this card. Metal samples are available upon request. A reasonable degree of color difference may occur when applied to a metal substrate. Premium coatings are also available in SUNSTORM® pearlescent finishes. Custom colors can also be formulated by special request.

Gloss

DURANAR coatings are normally supplied with a gloss of 30 ± 5 at 60° per ASTM D-523. Low Gloss – DURANAR LG coatings are also available on special order, with specular gloss of 5 - 10 at 60° and 5 - 10 at 85° per ASTM D-523.

Film Thickness

Standard film thickness ranges of DURANAR coatings are specified below. Thick film systems are available by special order.

Test Performance for DURANAR and DURANAR ULTRA-Cool Premium Coatings

Tests	ASTM Test # (Tests performed according to latest ASTM revision)	Performance
Physical Properties and Durability		
Film thickness	D-1005	0.15 - 0.30 mil primer, 0.70 - 0.90 mil topcoat
60° Specular Gloss	D-523	25 - 35
Pencil Hardness	D-3363	HB minimum
Flexibility, T-Bend	D-4145	1-T aluminum 2-T coated steel**
Adhesion	D-3359	No adhesion loss
Reverse Impact	D-2794	No cracking or loss of adhesion
Abrasion, Falling Sand	D-968	65-85 l/mil
Mortar Resistance	C-267	No effect
Detergent Resistance 3% 72 hrs @ 100°F	D-2248	No effect
Exclusive to DURANAR ULTRA-Cool		
IR Reflectivity	E-903-96 E-1918-97 (Standard test method using portable reflectometer)	0.25 (25%) minimum
Emmissivity	C-1371-98 E-408-71	0.80 (80%) minimum
Atmospheric and Pollutant Resistance		
Acid Pollutants	D-1308 10% Muriatic Acid (15 min.) 20% Muriatic Acid (15 min.) AAMA 621 Kesternich	No effect* No effect < 5 units color change 15 cycles minimum, no objectionable color change
Acid Rain Test	20% Sodium Hydroxide (1 hr.)	No effect
Alkali Resistance		
Salt Spray Resistance 5% @ 95°F	B-117	Passes 3,000 hrs aluminum Passes 1,000 hrs coated steel**
Humidity Resistance 100% @ 100°F	D-2247	Passes 3,000 hrs aluminum Passes 1,000 hrs coated steel**
Weathering		
South Florida Exposure	D-2244	Less than 5 units color change
UVB (313 bulbs)	G-53	Passes 3,000 hrs
Chalk Resistance	D-421	Rating of 8 min

*Kynar 500 is a registered trademark of Arkema, Inc. Hylar 5000 is a registered trademark of Solvay Solexis.

**Performances of TruZinc, ZINCALUME, Galvalume and other approved zinc/aluminum coated steel.

The test results set forth are representative of the results obtained by PPG. Your results may differ.

Warranties of the product are exclusively set forth in the applicable contract documents.

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TruZinc and ZINCALUME are registered trademarks of Steelscape, Inc.

