PVDF Cool Coatings

PVDF utilizes a two-coat system featuring fade resistant color, incredible durability, and environmentally-friendly "cool" technology.

VALLEY STEEL CONSTRUCTION INC.

NUCOR BUILDING SYSTEMS
a NUCOR® company

Regal White † IR .72 SRI 88	**Reflective White** •† IR .63 SRI 76	**Warm White** † IR .63 SRI 76
Pearl Gray •† IR .47 SRI 54	**Desert Sand** •† IR .57 SRI 67	**Surrey Beige** † IR .50 SRI 56
Slate Gray † IR .37 SRI 40	**Royal Blue** † IR .30 SRI 30	**Terra Cotta** † IR .36 SRI 38
Cypress Green † IR .31 SRI 31	**Dark Bronze** † IR .32 SRI 33	**Brite Red** •† IR .38 SRI 40
Charcoal •† IR .32 SRI 34	**Midnight Black** •† IR .27 SRI 26	**Galvalume** *† IR .77 SRI 72

•Non-Stock Color: Extended lead times may apply. *The Galvalume coating process is likely to result in variances in spangle (size, number, and reflection) from coil to coil which may result in noticeable shade variations. Galvalume is also subject to variable weathering and may appear to have different shades due to weathering characteristics. These shade variations are not cause for rejection. †ENERGY STAR® Qualified Color. All standard PVDF colors have a 35-year finish warranty. Colors shown closely approximate actual coating colors. These colors utilize Cool Coating Technology. The term "TBK" on the Order Document refers to "To Be Selected" from standard PVDF colors as shown on this chart. Please note that PVDF is a slight upcharge over SP.

ENERGY STAR

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Product Specifications

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Solar Reflectance, Thermal Emittance and Solar Reflectance Index (SRI)

Solar Reflectance

To be considered "cool," products must have a Solar Reflectance of at least .25. Solar Reflectance is the fraction of the total solar energy that is reflected away from a surface.

Thermal Emittance

Thermal Emittance is the measure of a panel's ability to release heat that it has absorbed.

Solar Reflectance Index (SRI)

Put Solar Reflectance and Thermal Emittance together and you get the Solar Reflectance Index (SRI). SRI is calculated by using the values of solar reflectance, thermal emittance and a medium wind coefficient. The higher the SRI value, the lower its surface temperature and consequently, the heat gain into the building. Metal roofs coated with pigmented PVDF resin achieve an SRI of 26-88, depending on the color.

Conventional roof surfaces have low reflectance (0.05 to 0.25) and high thermal emittance (typically over .85). Roof panels with both high reflectance and high emittance can reduce the surface temperature by as much as 30-50% based on color and geographic location, which will result in a reduced heat gain to the building, therefore reducing the energy demand.

PVDF COOL PANEL COLORS

PVDF Cool Color	Initial Solar Reflectance (IR)	Initial Thermal Emittance	Solar Reflectance Index (SRI)
Regal White	.72	0.85	88
Reflective White	.63	0.86	76
Warm White	.63	0.86	76
Pearl Gray	.47	0.86	54
Desert Sand	.57	0.86	67
Surrey Beige	.50	0.85	56
Slate Gray	.37	0.85	40
Royal Blue	.30	0.85	30
Terra Cotta	.36	0.85	38
Cypress Green	.31	0.85	31
Dark Bronze	.32	0.86	33
Brite Red	.38	0.84	40
Charcoal	.32	0.86	34
Midnight Black	.27	0.85	26
Galvalume®	.77	0.08	72

PVDF COOL TECHNICAL INFORMATION

Test	Test Methods	Performance
Dry Film Thickness	ASTM D1400	0.15 - 0.30 mil primer 0.70 - 0.90 mil topcoat
Gloss	ASTM D523 @ 60°	25 - 35
Solar Reflectance	ASTM E903 Steep Slope: Low Slope:	>25% Initial >15% after 3 years >65% Initial >50% after 3 years
Emissivity	ASTM C1371, ASTM E408	0.80 (80%) min.
Pencil Hardness	ASTM D3363	F-2H
Flexibility	T-Bend, ASTM D4145	0 - 2 T-Bend; No pick off
Adhesion	ASTM D3359	No adhesion loss
Reverse Impact	ASTM D2794	No cracking or adhesion loss
Abrasion, Falling Sand	ASTM D968	65 - 85 l/mil
Mortar Resistance	ASTM C267	No effect
Detergent Resistance	ASTM D2248 3% detergent @ 100°F (72 hrs.)	No Effect
Acid Resistance	ASTM D1308 10% muriatic acid - 24 hrs. 20% sulfuric acid - 18 hrs.	No effect No effect
Acid Rain Test	Kesternich SO2, DIN 50018	15 cycles min. No objectionable color change
Alkali Resistance	ASTM D1308 10% , 25% NaOH, 1 hr.	No effect
Salt Spray Resistance	ASTM B117 5% salt fog @ 95°F	None or few #8 blisters; Max. average 1/8" Scribe creep Passes 1000 hrs.
Humidity Resistance	ASTM D714, ASTM D2247 100% relative humidity @ 95°F	Passes 1500 hrs. No #8 blisters
Exterior Exposure	ASTM D2244, ASTM D 4214 10 yrs. @ 45°F, South Florida	Max. 5 fade Max. 8 chalk