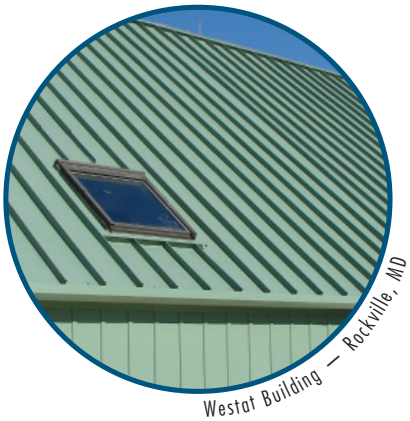
Johnson Elementary School — Warrenville, IL

Protection for Metal Roofing

COOL ROOFS WITH ADVANCED SOLUTION FLUOROPOLYMERS



Westat Building — Rockville, MD

FEATURES

- Reduced roof temperatures
- Lowered cooling costs
- Extended repaint cycles
- 15-year limited warranty on standard and many custom colors
- Low-VOC formulations less than 100 g/L
- Unsurpassed color and gloss retention
- Excellent protection and durability
- Easy application – brush, roll or spray

As an air-dried, premium fluoropolymer topcoat, Fluoronar's superior color and gloss retention make it an ideal candidate for the protection of exterior architectural metal roofing. Fluoronar is one of the industry's most outstanding coatings with unequalled aesthetic stability, including resistance to chalking and fading, backed by years of proven durability.

Fluoronar's formulation contains colorfast, infrared (IR) reflective pigments that protect metal roofing from deterioration caused by the sun's heat and damaging rays, offering extreme protection while providing a cool roof effect. This translates into savings in energy and cooling costs. Additionally, Fluoronar is a field-applied coating, which makes it an ideal choice to extend the life cycle of existing roofs.

Environmental Benefits

Highly visible, steep-sloped roofs can benefit from cool roof coatings like Fluoronar. The color stable, infrared (IR) reflective pigments used in Fluoronar maximize the amount of IR light reflected by the roof, decreasing the amount absorbed and transferred to the interior as heat.

When it comes to coating metal roofs, building owners, specifiers and architects often prefer the aesthetic appeal of darker shades and designs. Because of Tnemec's advanced work and research in infrared-reflective pigments, Fluoronar offers a wide range of color choices allowing architects and building owners to choose a desired hue without sacrificing energy savings. Available in an array of greens, blues, grays and browns, many Fluoronar colors meet sustainable building requirements under Leadership in Energy and Environmental Design (LEED) Sustainable Sites (SS) Credit 7.2 Heat Island Effect (Roof).

For detailed product information, surface preparation and system recommendations, contact your local Tnemec coatings consultant.

LEED 2009:
Sustainable Sites Credit 7.2
Heat Island Effect (Roof)

Roof Type	Slope	SRI
Low-Sloped Roof	<2:12	78
Steep-Sloped Roof	>2:12	29

ASTM Standards for Roofing

Note: To calculate the SRI for a given material, it is necessary to obtain both the reflectance and emittance values for the material.

Total Solar Reflectivity (TSR)

ASTM C1549-04: Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer

Total Solar Reflectivity, or reflectance, is the ability of a material to reflect solar energy from its surface back into the atmosphere. The SR value is a number from 0 to 1.0. A value of 0 indicates the material absorbs all solar energy while a value of 1.0 indicates total reflectance.

Emissivity

ASTM C1371-04A: Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers

Emissivity is the amount of heat radiated from a surface. The greater the emissivity value, the greater the ability of a surface to cool itself through radiative heat loss.

Solar Reflectance Index (SRI)

ASTM E1980: Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces

Solar Reflectance Index is a value that incorporates both solar reflectance and emittance in a single value to represent a material's temperature in the sun. SRI quantifies how hot a surface would get relative to standard black and standard white surfaces.

Reflectance and Emissivity Data

Fluoronar Color	Total Solar Reflectance (TSR) ASTM C1549-04	Emissivity ASTM C1371-04A	Solar Reflective Index (SRI) ASTM E1980
00WH Tnemec White	78.8	0.90	98.0
01BR Warm Sun	76.6	0.88	94.8
02SF Lemon Yellow/Safety	61.3	0.88	73.2
03SF Bright Yellow	60.3	0.89	72.1
04BR Desert Sands	55.7	0.89	65.8
04SF Tangerine Orange/Safety	54.3	0.88	63.5
05SF International Orange	51.8	0.88	60.1
06BR Amber Canyon	38.8	0.88	42.5
06SF Candy Apple Red/Safety	43.5	0.87	48.5
07SF Chilean Red/Safety	45.5	0.89	51.9
07WH Winter Mist	74.3	0.88	91.5
09SF Spearmint Green/Safety	43.3	0.89	48.9
10GN Aqua Sky	67.4	0.87	81.5
14SF Purple Rain/Safety	45.5	0.88	51.5
15BL Tank White	77.6	0.89	96.4
22YW Barbados	71.1	0.89	95.7
23BR Sahara	67.0	0.88	81.2
25BL Fountain Blue	51.5	0.88	59.7
26BL Clear Sky	44.3	0.89	49.9
29BL Spring Water	73.6	0.89	90.7
31GR Slate Gray	54.6	0.87	63.6
32GR Light Gray	38.6	0.86	41.5
33GR Gray	28.8	0.89	29.8
37BL Teardrop	69.1	0.88	84.2
39BL Delft Blue	61.2	0.89	73.3
44BR Beige	69.7	0.88	85.0
50RD Bare Beige	69.6	0.89	85.1
52GN Aztec Grass	65.7	0.88	79.4
53BR Tiki Wood	45.2	0.89	51.5
57BR Cloud	70.0	0.88	85.4
57GR Aluminum	40.2	0.87	44.0
68BR Twine	44.7	0.88	50.4
71RD Old Glory Red	54.2	0.89	63.7
74BR Clay	45.5	0.89	51.9
78GN Cumulus	74.0	0.88	91.1
108GN Ginger Mist	55.2	0.89	65.1
110GN Clover	32.9	0.88	34.8

Note: Values listed are based on Fluoronar applied directly to aluminum panels. Contact your Tnemec representative for more information regarding values based on a complete coating system or for colors not included on this flier.

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