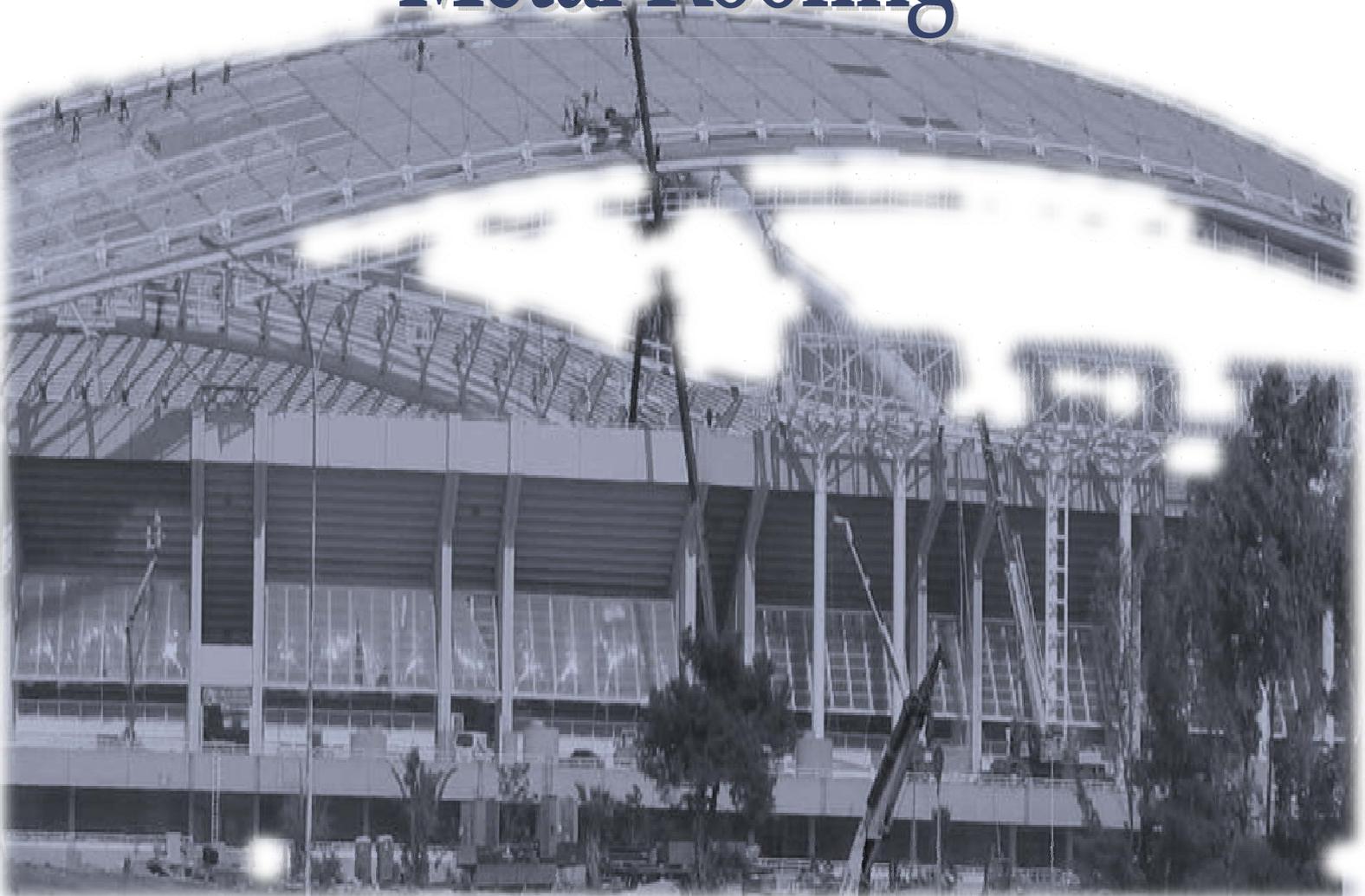




Protective Solar Reflective Coating Systems for Metal Roofing



www.abolinco.com

Cool Barrier Technology

High solar reflective Cool Technology which noticeably combines the improvement of thermal comfort conditions with the reduction of energy consumption for cooling.

Benefits of Cool Metal Roofs

There are many benefits of owning a cool metal roof. Here are just a few to consider:

Energy Efficient

Metal roofing is on the leading edge of technology with a wide variety of finishes, designs and colors that provide greater energy savings compared to most other non-metal roofing products on the market today.

Sustainable

Metal roofing is sustainable. It contains significant recycled content. It lasts much longer than most non-metal roofing products. It is 100% recyclable at the end of its useful life.

Low Life-Cycle Costs and Durable

Metal roofing has been proven to be more durable than most other roofing systems available. As a result, metal roofing has low life-cycle costs making it the choice of many schools, government, commercial, industrial and institutional building owners.

Fire and Wind Resistant

Metal roofing is extremely fire resistant and can be designed to withstand strong winds.

Lightweight

Due to its light weight per unit area, structural savings can be realized in a building when compared to using heavier non-metal roofing alternatives. For re-roofing projects, metal roofing can often be applied over the original roof, saving removal and disposal costs.



Advanced solvent based Coating Systems for Metal Roofing

What is A Metal Roof?

Metal roof is a roofing system using metal sheets or tiles as the waterproofing layer. There are different types of metal roof which suit different building forms and structures. Metal roofs can be applied on top of existing roofs, on boarded roofs, or for most systems directly onto roof purlins.

Characteristics

Base: Metal roofs are typically formed from galvanized steel or aluminium and usually have a pre applied coating to provide corrosion resistance as well as aesthetics. Steel is typically galvanized with either a zinc or zinc/aluminium based coating before the factory-applied paint coating.

Form: There are many different profiles and styles available. Metal roofing can be classified in three categories: corrugated, standing-seam and 3D-profile

Corrugated roofing: Typically used for larger buildings, but equally used in some small projects and for general sheeting applications, corrugated roofing sheets are typically around 1000mm wide and can be supplied either in standard lengths to cut on-site or, more usually, factory-cut to the right length. Although most sheets would typically be cut to 3m – 6m lengths, they can be manufactured to any length. The traditional corrugation is a sinusoidal profile, although this has largely been replaced by the more efficient trapezoidal or box-profile. Sheets are generally fixed to the sub-frame with through-fixings and can be used on roof pitches as low as 5 degrees.

Standing seam: The traditional form of metal roofing, as used for copper, zinc or lead roofs, joins sheets using a crimped standing seam. Fixings are rolled into the seam, so that there is no penetration of the outer sheet. Standing seam metal roofing can be used on very low pitch roofs. Standing seam metal roofing is generally applied on fully supported (boarded or sarked) roofs, although some systems, usually with stiffening ribs and sometimes taller standing seams, are available which are self-supporting. Standing seam metal roofing is widely used on residential commercial and public buildings.

3D-profile metal roofing: Metal roofing is available with a profile to give the appearance of tiles, slates or shingles. There are various profiles available to match the various tile profiles used.

These are available in two types: long sheets which run down the roof slope and are installed in a similar fashion to corrugated roofing; or smaller sheets which are typically one tile high and several tiles wide. The latter are installed in a similar fashion to traditional tiles, with an overlap between sheets.

Cool Barrier Solventbased System for Metal Roofs

Cool Barrier Epoxy Primer, Cool Barrier 2k Top Coat

System: Cool Barrier Epoxy Primer,
Cool Barrier 2k Top Coat

METAL

COOL BARRIER EPOXY PRIMER

D.F.T 75 Microns

COOL BARRIER 2K Top Coat

D.F.T 100 Microns

Abolin Co, Cool Barrier Solvent based coating systems are based on premium technologies, which fulfill the needs of the metal roofing into the field of the residential, commercial, public and industrial buildings. The benefits of these proposed technologies support solution in terms of:

- Saving Energy by reducing the needs for cooling
- Contributing to "Urban Heat Island" mitigation
- Mitigating the consequences of the Global Warming phenomenon
- Creating thermal comfort conditions
- Saving money by reducing the billing costs for energy
- Decreases the stress heating of the construction
- Increasing the durability of the roof and minimizing the costs for restoration
- Excellent durability even in harsh and heavy polluted industrial environmental conditions.

Cool Barrier Epoxy Primer

Cool Barrier Epoxy Primer is a 2-component, ready to mix, quick drying, polyamide cured epoxy primer, which exhibits excellent anticorrosion protection. It is especially designed as primer, which is applied in field by automatic spray machines after sandblasting, for anticorrosion protection. It is weldable and can be top coated with any epoxy, vinyl-acrylic, and polyurethane or even with any alkyd coating system. It is based on active anticorrosive pigments such as zinc phosphate and iron oxides.

GENERAL FEATURES

Two component anticorrosive primer with solvent-borne epoxy resins.

It forms a film that has strong resistance to aggressive chemical agents, solvents, salt and sweet water and corrosion.

The primer possesses excellent adhesion on most metal supports.

In order to get resistance to aggressive chemical agents and water in worst-case conditions apply the product in several coats. The product is easy to apply.

Contains lead-free and chrome-free pigments.

Cool Barrier Epoxy Primer offers very good protective performance even on untreated metal sheets, light alloys, galvanized sheets. However, the best protective performance is obtained on sandblasted substrates. Several lab tests have shown corrosion resistance varying from 250 up to 700 hrs according to type of substrate (smooth or rough Q panel, mechanically rubbed down). Of course, much better results are obtained on sandblasted surfaces.

HANDLING AND STORAGE

The primer and its hardener are not frost-Resistant, therefore it is advised to store these products at temperatures varying from +10°C to +35°C maximum.

Storage life in original package: 8 months.

MIXING RATIO

For application mix the products in the following proportion: **20 kg of Component A + 4 kg of catalyst B**

THEORITICAL COVERAGE

Considering that the theoretical spreading rate of the mixed product at 50 micron is 4-5 m²/kg, if you apply 75 microns, you can paint about 3 - 4 m²/kg.

NOTES: After addition of the hardener the pot-life of the product lasts for about 2 hours at 25°C.

DO NOT USE: the product after this period, even if there is no increase of viscosity or/and gelling evident.

Performance	
COLOUR:	Red-brown, Grey, other colour upon request.
SOLID CONTENT :	55 ± 2% b.w. or 38±2% by vol.
FLASH POINT:	26 °C, Abel closed cup.
VOC VALUE:	380 g/L.
RECOMMENDED D.F.T.:	25 µm for short-term protection. 50 - 75 µm for long-term protection.
DRYING TIME: (20 °C & 50% RH)	A:B = 5 : 1 b.w.
THEORETICAL COVERAGE:	8 m ² /kg for 50 µm D.F.T.
THINNING:	With solvent NR-640, if needed, to adjust working viscosity and film thickness.
RECOATING TIME:	Min after 4 hrs at 20°C. Max no limit.

Cool Barrier 2k Top Coat

Cool Barrier Top Coat 2k is a 2-component acrylic polyurethane top coat. It is recommended to be used as finish coat of all epoxy-coating systems for external protection of metallic surface. It exhibits excellent non-yellowing and long term ageing resistance. It is suitable for use in heavy industrial and marine environment.

Cool Barrier Top Coat 2k forms a hard elastic surface with absolute solar reflectance and infrared emittance properties which allows the thermal protection of the civil infrastructures and the metal roofs from the thermal solar heat waves. It is ideal for the long term protection of metal surfaces against rust attack, acid rain and corrosive environmental pollution.

100 m² of a Cool Barrier white roof, replacing a dark roof, offset the emission of 10 tonnes of CO₂

Performance	
COLOUR:	White and as per Colour chart
SOLID CONTENT :	60% b.w.
SPECIFIC GRAVITY:	1.25 kg/L at 20 °C.
APPLICATION:	By automatic machines, air spraying or airless, roller or brush.
FLASH POINT:	14 °C, Abel closed Cup. VISCOSITY: 40 -80 sec, DIN Cup 4
ADHESION:	GT 0-1, DIN 53151
MIXING RATIO:	5: 1 b.w.
RECOMMENDED D.F.T:	75-100 µm.
DRYING TIME:	Touch dry: 4 hr. max at 20 °C. Hard dry: 8 hr max at 20 °C. Final drying 72 hr.
THEORETICAL COVERAGE:	4 m2/kg for 100 µm D.F.T
THINNING:	With solvent NR-27, if required to adjust film thickness and working viscosity.
POT LIFE:	5 hrs at 20 °C.
RECOATING TIME:	Min. 8 hr. Max. One week.
SOLAR REFLECTANCE	0,91
INFRARED EMITTANCE	0,88
SOLAR REFLECTANCE INDEX	116

Standard Cool Colours Chart



Cool Barrier Technology Fights Global Warming!

Country	CO ₂ emission in 1990 Mt	Kyoto's reduction commitment (%)	Requested white reflecting surface to fulfill Kyoto's goal (km ²)	Cool Barrier Roof White surface necessary to compensate for all CO ₂ emission (km ²)
Austria	59,20	8	113,66	1.420,80
Belgium	113,40	8	217,74	2.721,72
Bulgaria	82,99	8	159,34	1.991,76
Canada	457,44	8	658,72	10.978,58
Denmark	52,10	8	100,03	1.250,40
Estonia	37,79	8	72,57	907,13
Finland	53,90	8	103,49	1.293,60
France	366,53	8	703,75	8.796,86
Germany	1.012,44	8	1.943,89	24.298,63
Greece	82,10	8	157,63	1.970,40
Ireland	30,71	8	58,98	737,26
Lettonia	22,97	8	44,11	551,42
Liechtenstein	0,20	8	0,40	4,99
Luxemburg	11,34	8	21,78	272,23

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