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EABASSOC

PRODUCT INFORMATION

Elastotherm AC

Description

Elastotherm AC is a ready to use, water-based coating giving exceptional thermal insulation, anti-carbonation and weatherproof properties. It is suitable for both internal and external use on all substrates and provides an attractive, decorative finish.

Elastotherm AC not only gives outstanding thermal insulation results, but forms a tough, durable coating, which provides long term protection for more than 20 years exposed. Elastotherm AC performs exceptionally against destructive elements such as UV radiation, weathering, high and low temperatures, and atmospheric pollution.

Elastotherm AC forms a highly durable, tightly bonded, flexible, protective coating, waterproof yet breathable, and visually attractive.

When applied onto concrete Elastotherm AC resists penetration by water and carbon dioxide gas, thereby minimising the risk of concrete carbonation. The elastomeric nature of the product, which allows the coating to move with the substrate, and its excellent adhesion virtually eliminate any cracking or delamination of the coating.

Key Features of Elastotherm AC

- Saves money! Reduces air conditioning bills and repairs to corrosion damage
- Excellent thermal insulation results
- Outstanding anti-carbonation properties
- Easy to apply
- Non-hazardous & environmentally safe
- Extremely durable
- Highly resistant to weathering & UV
- Excellent adhesion & flexibility
- Waterproof but allows buildings to breathe
- High fire resistance rating
- Decorative, colour-stable appearance
- Elastotherm AC is easy to apply, non-hazardous and environmentally safe

Technical Data

1. Liquid product

Form	water-based, white, sprayable paint (other colours are also available)
Composition	polymeric emulsion containing ceramic and silicate fillers
Density	1.3 kg/litre
Solids Content	45% by volume
V.O.C. Content	2.8gms/litre
Application Conditions	Do not apply in wet weather, or during high humidity, or below 5°C
Drying Time	2 to 4 hours; full cure 7 days
Shelf Life	12 months

Technical Data

2.Cured membrane

Form	smooth, elastomeric, flexible membrane, resistant to "yellowing"
Accelerated Weathering	6354 hours QUV-B; equals 32 years natural weathering – no significant change
" "	16000 hours QUV-A; equals 32 years natural weathering – no significant change
Salt Spray Test	ISO 7253: 3800 hours – no damage
Abrasion Resistance	ASTM D4060: 1000 cycles – wear index = 0.2 g
" "	USUBEL: 5000 cycles – no damage
Fire Resistance	BS476 Parts 6&7 – Class O rating
Vapour Permeability	83gms/m ² /24 hours (breathable membrane)
Chemical Resistance	resistant to algae, alkalis, oil and grease

THERMAL INSULATION & ANTI-CARBONATION PROTECTION

Elastotherm AC is suitable for all types of buildings. As a solar reflective roof coating it not only protects against UV radiation, but also dramatically reduces heat gain by buildings in the hot sun.

Elastotherm AC as a Thermal Insulation Coating

Heat build up from the sun's energy can cause damage to roofs and walls and produce unpleasant internal working environments. Consequently, air-conditioning costs in hot climates can be very high. Elastotherm AC possesses both high reflection and high emissivity properties. Firstly, it reflects most of the sun's rays substantially reducing the sun's heating effect. Secondly, any heat that is created on the surface is re-radiated outwards, minimising heat build-up.

Huge Energy Savings

As a thermal insulator Elastotherm AC helps to keep down internal temperatures during the summer, and reduces or even eliminates the need for air conditioning. Working conditions are improved whilst reducing fuel bills.

Formulated to give exceptional durability and weather resistance, Elastotherm AC has an expected lifespan in excess of 20 years. It is ready to use and can be applied quickly and simply to most construction surfaces, including metals, fibre-cement, concrete, masonry, cement rendering and plastics.

Case Study

Heat reduction tests were conducted in Japan. The underside temperature of a metal roof with 30mm fibreglass insulation was 31.3°C, whilst that of an adjacent roof with only white Elastotherm AC on its upper surface for insulation measured 25.7°C, 18% less, and a full 34% lower than for a roof with no insulation. Furthermore, the temperature at ground level was reduced to just 19°C, which eliminated the need for air-conditioning.

Test Results

Elastotherm AC – colour	solar reflectance (ASTM C1549)	infra-red emittance (ASTM C1371)	% temperature reduction
white	0.87	0.89	-34.3%
moss green	0.72	0.88	-26.7%
ash grey	0.61	0.87	-19.6%
goose grey	0.36	0.87	-7.5%

The ASTM tests were performed by R&D Services Inc., Cookeville, Tennessee

The temperature reduction tests were performed in-house using heat lamp apparatus and a dark coloured control panel whose surface temperature was 69.4°C

Elastotherm AC as an Anti-Carbonation Coating

Not only is Elastotherm AC an outstanding thermal insulation coating, but its unique formulation gives it outstanding anti-carbonation properties.

Concrete Protection

Elastotherm AC achieves outstanding resistance to CO₂, is environmentally friendly and easy to apply.

Carbonation causes the neutralization of alkalinity of concrete through a reaction of carbon dioxide and water. At its worst, this results in corrosion to the embedded steel reinforcement followed by cracking and spalling of the concrete. Carbonation causes millions of pounds worth of damage to building structures around the world each year.

Elastotherm AC provides superb protection against carbonation and will create huge savings on maintenance costs with one simple application.

Test Results

Carbon Dioxide Diffusion Test :

Sc = 75cm (equivalent thickness of concrete);

R = 301metres (Klopfer criterion is R>50mtr)

Although Elastotherm AC resists the penetration of water and CO₂ it does not block the passage of water vapour so buildings are able to breathe. This minimises the risk of condensation within the building.

Application Instructions

These are essentially the same as for all coating applications in the construction industry. If special or unusual circumstances exist, you should please contact E-A-B Associates for advice.

Surface Preparation

Remove old flaking paint, loose particles and organic growth, which should first be treated with a fungicide. Well-bonded paints need not be removed but beware of old paints which have lost adhesion in some places but appear sound in others. Power washing is recommended. Repair surface defects. Ensure all surfaces are clean, dry and firm before application.

Priming - in certain circumstances a primer should be applied, for example to consolidate friable surfaces, to seal porous surfaces, to block any bleed from bituminous surfaces, or if corrosion is present on steel surfaces. A range of primers and sealers are available from E-A-B Associates.

Application

Stir thoroughly. Apply evenly by brush, spray or roller. Elastotherm AC should never be thinned.

Apply two coats. Ensure the first coat is fully dry before applying the second coat – usually in 2 to 4 hours.

Do not apply too thickly.

Do not apply when there is a risk of rain or frost.

Do not apply during excessively damp conditions.

If Elastotherm AC is exposed to rain after it has dried but before full cure is achieved it is possible that blisters may form. These are not harmful to the coating and will disappear as the coating cures.

Do not apply when the temperature is below 5°C.

Clean brushes, rollers and spray equipment with water immediately after use.

Coverage Rate

6m² per litre, per coat. Apply two coats. This will give a total dry film thickness of 150 microns on smooth surfaces.

Warehousing

Packaging: Elastotherm AC is normally supplied in 5 and 20 litre, UN-approved drums.
Storage: Store between 5°C and 28°C, and always protect from freezing.
Shelf Life: 12 months in original sealed container if correctly stored.

Health and Safety

Elastotherm AC is non-hazardous and water-based. It presents no serious health risk if good industrial hygiene is exercised. Splashes on skin and eyes should be washed off immediately with plenty of water. When spraying wear a suitable filter mask and goggles. Please refer to Health and Safety Data Sheet for further information.

All EABASSOC product information is given in good faith, and every effort is made to ensure that it is accurate at time of issue. It is however, the responsibility of the customer to ensure that the products are suitable for the required purpose, and if in doubt sample orders should be taken for trial purposes.

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