



TECHNICAL DATA SHEET

COOL BARRIER FACADE

Product Description

Cool Barrier Facade for masonry and concrete is an excellent quality, high performance protective anticarbonation coating based on polyurethane waterbased technology. It forms an extremely high solar reflective mat surface that minimises the heat buildup and the subsequent heat stress of the structure. An improved coating composition allows the application on horizontal and on vertical surfaces, where optimum sag control and early dirt pick up resistance is critical.

It retains its elasticity, even in low temperatures ranging between -20°C to 80°C, covers and withstands in difficult weather conditions such as rain and UV radiation. Cool Barrier Facade is crack-bridging; it prevents mould and green spots formation and performs long term protection of concrete structures against chloride ions, water ingress and carbon dioxide.

Typical uses

It is suitable for concrete structures protection in civil engineering works as per EN 1504-2 and for building's masonry protection as per EN 1062-1, European technical standards requirements.

Special Characteristics

- High solar reflective – minimises heat stress
- Anti-carbonation
- Crack-bridging
- Protection against chloride ions induced corrosion
- Water based
- Easy to use
- Environmentally and user friendly

Typical Product Data		
Volume Solids	ASTM D 2697	70, 08%
Weight Solids	ASTM D 1644	64, 87%
Fungi Resistance	ASTM G21	Zero Rating
Optical Properties		
Solar Reflectance*	ASTM E903-96	0, 89
Infrared Emittance	ASTM E408-71	0, 89
Solar Reflectance Index*	ASTM E 1980-01	113
* values refer to white colour		

Concrete protection according to EN 1504-2

Cool Barrier Façade when properly applied performs excellent protection to concrete based structures and to the most mineral-based substrates against aggressive atmospheres, moisture ingress and carbonation. Cool Barrier Façade Coating is certified according to PI, MC and IR principles

Typical Data according to EN 1504-2 Performance characteristics according to the principles defined in EN 1504-9 (tables 1 and 5 of EN 1504-2)		Products and systems for the protection and repair of concrete structures. Definitions, requirements, quality control and evaluation of conformity. Surface protection systems for concrete
Principles	Minimum requirements (table 5 EN 1504, part 2)	Cool Barrier Façade characteristic values
Principle 1 Protection against ingress		
Permeability to CO ₂ EN 1062 – 6	Sd > 50 m	SdCO ₂ =164,147 m (anticarbonation)
Crack Bridging EN 1062-2 (Static Method A)		0,809 mm Class A3
Principle 1 Protection against ingress		
Principle 2 Moisture control		
Principle 8 Increase of resistivity		
Permeability to water vapour EN ISO 7783 – 1 EN ISO 7783 – 2	Class I: Sd < 5 m Class II: 5 m ≤ Sd ≤ 50 m Class III: Sd > 50 m	Class I Sd= 0,4699 m
Capillary absorption and permeability to water EN 1062 – 3	W < 0,1 kg/m ² x h ^{0.5}	W=0,004Kg/m ² h ^{0.5}
Adhesion strength by pull-out test EN 1542	Crack bridging Rigid or flexible systems No traffic ≥ 0,8 N/mm ² ≥ 1,0 N/mm ² Traffic ≥ 1,5 N/mm ² ≥ 2,1 N/mm ²	≥ 0,8 N/mm ² *

Concrete protection against Chloride ions induced corrosion.

Cool Barrier Façade has been tested according to NT BUILD 492 and ASTM 1202 – 2. Both test reports indicate the successful use of Cool Barrier Façade product as Chloride salts barrier.

Performance against Chloride ions
Accelerated method for chlorides penetration, AASHTO T277 (ASTM C1202): Reduction 72% in comparison to the reference sample.
Steady state method (DNSSM), NT BUILD 492: Reduction 60.2% in comparison to the reference sample.

Buildings masonry protection according to EN 1062-1

Cool Barrier Façade when properly applied onto building's envelope performs excellent protection to the most masonry materials against aggressive atmospheres, moisture ingress, and heat radiation.

Typical Data according to EN 1062-1		Paints and varnishes —Coating materials and coating systems for exterior masonry and concrete					
Water Permeability		W3				W=0,004Kg/m ² h ^{0,5}	
Water Vapor Transmission Rate		V2				Sd= 0,4699 m	
Carbon Dioxide Permeability		C1				Sd _{CO2} =164,147 m	
Crack Bridging Properties		A3				0,809 mm	
Specular Gloss (G)		G3				Matt	
Dry film Thickness		E4				> 200 ≤ 400 µm	
Grain Size		S1				Fine < 100 µm	
Designation Code	W3	V2	C1	A3	G3	E4	S1

Typical Data according to EN 1062-1 UV/Moisture Weathering Test		Paints and varnishes —Coating materials and coating systems for exterior masonry and concrete — Part 11: Methods of conditioning before testing	
EN ISO 4628-6:2011 Chalking degree	1000 Hours	No Chalking	
EN ISO 4628-2:2007 Blistering degree	1000 Hours	No Blistering	
EN ISO 4628-4:2007 Cracking degree	1000 Hours	No Cracking	
EN ISO 4628-5:2007 Flaking degree	1000 Hours	No Flaking	

Application and procedure details

Suitable Substrates: It is suitable for every kind of new or old concrete and mineral substrates.

Colors: It is available in a standard white and in a number of shades through Abolin Cool Barrier Colors Palette.

Consumption Rates: For an excellent performance 3 m² per litter must be obtained.

Surface preparation, Primer and Agent systems: Surfaces must be clean, dry and free from all defective and poorly adhering materials, dirt, grease and salts. Before working with Cool Barrier Coating systems a thorough power wash with water of the surface with commercial power washer, between 2500 - 3500 psi is highly recommended.

Concrete substrates: Hydroblasting with minimum 350 – 500 bars.

Recommended Primers: Cool Barrier Grip, Cool Barrier Grip Nano, Epoxy Hydrodur Primer.

General: Cool Barrier Facade should be applied at a minimum of 6-8 dry mil thickness (about 1 lit per 3 Sqm) in two or three passes. Allow adequate time between passes before applying the following coat, usually two to four hours under normal conditions. Always ensure that properly adhesion between the coating and the substrate has been achieved.

Compatibility with concrete hydrophobic impregnations

Recommended Hydrophobic Agents: Cool Barrier Grip Crème, Cool Barrier Grip SWR, Cool Barrier Grip WWR.

Cool Barrier Facade should be NOT be applied:

At temperatures below 5°C (or 40°F).

At very high (>90%) relative humidity or when rain has already begun or is expected during the next 24 hours.

When impending rain is expected to last more than one hour.

Drying Time and recoatability: Touch dry during summer season after 6 hour and recoatable after 24 hours. Drying time depends on weather conditions and can be quite different in accordance to conditions of humidity or temperature.

Packaging: 10.0 and 18,00 liter cans.

Storage: 6 months under appropriate storage conditions

Application method & Thinning Rates: Roller, brush, airless spray gun with max. 5% water Airless spray equipment is best suited for field applications, although rollers can be used as necessary if overspray is a concern. Clean immediately the painting equipment after the application. For more information, please consult our technical department for further instructions.

The following minimums are recommended for commercial applications:

PUMP: 4 Litters per minute output and at least 2,500 psi (17,236 kPa) pressure capability.

GUN: Any airless spray gun compatible with pump used.

TIP SIZE: Tip size should be between .027" and .039" (0.7 and 1.0 mm) with a fan angle of 40° to 50°.

FLUID HOSE: A minimum 3/8" (1 cm) inside diameter high pressure hose is recommended in conjunction with any airless handgun compatible with pump used. Cool Barrier Facade overspray may not wet into the surface, particularly in high temperatures, which will create a rough surface texture that will collect dirt.

VOC's Classification: EU limits value for this product (cat A/c): 75 g/l (2007) and 40 g/l (2010). This product contains max 38 g/l VOC.

Caution

This product is for professional use only. The applicators and operators shall be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to Abolin's technical documentation. Applicators and operators shall use appropriate personal protection equipment when using this product. This guideline is given based on the current knowledge of the product. Any suggested deviation to suit the site conditions shall be forwarded to the responsible abolin representative for approval before commencing the work.

Health and safety

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention sought immediately.

Disclaimer

The information in this document is given to the best of Abolin's knowledge, based on laboratory testing and practical experience. Abolin's products are considered as semi-finished goods and as such, products are often used under conditions beyond Abolin's control. Abolin cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Abolin reserves the right to change the given data without further notice.

Users should always consult Abolin for specific guidance on the general suitability of this product for their needs and specific application practices. If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

ABOLIN CO GREECE:

Email: abolin@abolinco.com,

Web: www.abolinco.com