

COOL BARRIER 2K FLEX

An elastomeric, cement based waterproof coating for concrete and masonry



Product description

COOL BARRIER 2K FLEX flexible waterproofing membrane is a blend of modified APEO free acrylic dispersion with fine aggregates, hydraulic cement and other proprietary additives, asbestos free. When mixed to a slurry consistency with the acrylic polymer emulsion COOL BARRIER 2K FLEX Liquid, it can be easily applied by brush, roller or spray equipment. It cures to give an elastomeric flexible membrane. The waterproof membrane protects against soil moisture and water seepage; extends life of structural slabs and underlayments, accommodates substrate movement, prevents cracks, provides excellent underlayment for thin-set tile applications. Complies with EN 14891/12390-8.

Typical use

For waterproofing water-retaining structures which may be subject to movement. Protects concrete from water, carbonation and de-icing salts. Suitable for internal and external use, above or below grade. The product can be further reinforced with 100% polypropylene woven fabric and to be used in strip form over joints and cracks or as reinforcement for the whole application.

- Walls and floors
- Tiled pools and fountains
- Plaza decks
- Balconies
- Mechanical rooms

Characteristic benefits

- Highly flexible
- Water vapour permeable
- CO₂ barrier
- Water Resistance
- Good chemical resistance against soft water, domestic waste water, or other liquids moderately aggressive to mineral substrates
- Resistant to occasional foot traffic
- Freeze-thaw resistant
- Suitable for treating cracks and joints
- Can be applied to damp substrates
- Environmentally friendly
- Can be applied to damp substrates

Colours

Standard: white and grey.

Typical recommended film thickness per coat

Dry film thickness	Theoretical spreading rate
1500 µm	2 Kg /m ²
2000 µm	3 Kg /m ²

Application

Substrate preparation

The surface to be coated must be clean and sound. Remove all traces of formwork, release agents, previous coatings, laitance, organic growth and any other contaminant that may affect the bond adversely. Suitable cleaning methods include high-pressure water treatment and grit blasting. NOT recommended are aggressive percussive methods such as scabbling. After the above treatment, surfaces must be thoroughly rinsed with clean potable water to remove all dust and loose particles. Cracks and bolt holes must be cut out and filled solid with repair mortar.

Basic data, mixing ratio based on water-tightness requirements and application methods

This is a two component system. Mix the two components below, according to the accompanying labeling recommendations and the final water-tightness requirements, using the pre-fixed containers.

Cool Barrier 2K FLEX liquid: 5 lit

Cool Barrier 2K FLEX Powder: 12.5 kg

Wet density: 1,61 – 1,65 kg/lit

Working Time: Approximately 30 minutes, depending on ambient conditions

Pot life: 30 - 60 minutes, depending on ambient conditions.

Drying time: 6 hours

Mixing

Water-tightness Requirements

Water-tightness requirements for cementitious liquid waterproofing membranes: EN 14891-2007 and recommended mixing ratio powder to liquid	Water-tightness Requirements	Mixing Ratio Powder to Liquid
	Fundamental 7 DAYS @ 160 kPa = 1,5 bar	12,5 kg to 5lit
	Optional 7 DAYS @ 160 kPa = 5 bar	12,5 kg to 4lit

- COOL BARRIER 2K FLEX should be power mixed only, using a slow-speed mortar mixer (400 - 600 rpm). DO NOT use a bricklayer's mortar mixer.
- Blend 12,5 kilograms of powder into 5,0 litres of liquid. The quantity may vary slightly depending upon the ambient conditions. Mix maximum 3 minutes to a lump-free consistency. Allow the mix to saturate for 5 minutes and remix for maximum 2 minutes adding powder or liquid when necessary to obtain the correct consistency. Do not exceed the maximum liquid demand. Do not overmix.
- For colour uniformity always mix with the same amount of liquid. Provide adequate ventilation when mixing and applying COOL BARRIER 2K FLEX.

Application Methods

Trowel, Brush or roller application according to mixing ratio/water demand per way of application/ ambient conditions.

Conditions during application

Do not apply COOL BARRIER 2K FLEX to frozen substrates or if the ambient temperature is below 5°C or expected to fall below 5°C within 24 hours. Avoid application during ambient temperature above 30 °C in direct sunlight.

Surface Preparation

- Substrates must be sound and level and the surface free from protrusions, large pores, honeycombs, gaping cracks, and ridges. Concrete substrates should be cured 28 days before application.
- Sandblast or waterblast substrates to remove all traces of water repellents, bitumen, form oils, grease, paint, and other foreign matter from substrate that could act as a bondbreaker.
- Any edges must be rounded. Form coves with regular site-mixed mortar and round to a minimum radius of 1 1/2" (38 mm).
- **The substrate must be saturated surface-dry (SSD) with no standing water.**
- COOL BARRIER 2K FLEX is applied only to the positive side (source of moisture) of the substrate in 1 or 2 void-free coats. Allow 24 hours before second coat. Thoroughly work the material into the substrate. Make sure the rounded edges are fully coated. Apply at 80 wet mils, using a 1/8" (3 mm) square-notched trowel, yielding 60 dry mils (1/16" or 1.6 mm).
- Embed fiberglass tape wherever dissimilar materials join. Also, treat surface cracks less than 1/8" (3 mm) wide and areas where underlayment panels meet.
- In most cases, one coat is sufficient without reinforcing mesh. If reinforcement is necessary, embed an appropriate mesh into the still-wet first coat and use a trowel to work the material up and through the mesh until it is completely embedded. Material that is too thick is subject to drying or shrinkage cracking. Be certain to cover all reinforcement material.
- Smooth over with the flat trowel edge, creating a smooth, void-free membrane.
- **First coat:** Brush, broom or spray the mix onto the pre-dampened, prepared surface, brushing well into the surface. Strike off with the brush or broom in one direction for a neat appearance. Care must be taken not to spread the material too thinly. Typical layer thickness is approximately 1,0 mm. When the material begins to drag or "ball", do not add more liquid, but dampen the surface again. Spray through a 3 - 4 mm nozzle at a pressure of 3,6 – 5,0 bar.
- **Second coat:** Allow to cure at least 6 hours at 20°C before applying subsequent coats. Low temperatures and high humidity will delay setting and curing. Humidification of the previous coat is only allowed in extremely dry conditions. Remove eventual condensation. Brush, roll or spray the mix onto the surface in a similar thickness as above, finishing in one direction, preferably at 90° to the previous layer to ensure good coverage.

For best performance

- Do not apply at temperatures below 40° F (4° C) or above 90° F (32° C)
- Do not dilute with water if possible
- Do not use additives of any kind
- Do not apply thicker than 1/16" (1.6 mm)
- Do not over trowel

- Use caution under extremely hot or windy conditions; they will shorten the pot life and reduce trowelability
- This product is not recommended for application over lauan, presswoods, particle board, masonite, chipboard, plywood, asbestos board, or any other unstable materials
- Do not use as an adhesive to install ceramic tile or natural stone
- Allow coating to harden sufficiently (not less than 3 days) before tiling over it
- Do not puncture membrane while setting tiles
- Concrete substrates should be cured 28 days before COOL BARRIER 2K FLEX application

Clean up

Wash tools with water immediately after use. Cured material may only be removed mechanically.

Typical physical properties¹

Maximum grain size	0.500 mm
Capillary water absorption (EN 1062-3)	0.03 kg/m ² h ^{0,5}
Water vapour permeability - μH₂O (DFT = 2.2 mm) (EN ISO 7783-1)	1400
CO₂ permeability - μCO₂ (DFT = 2.1 mm) (EN 1062-6)	76232
Artificial Weathering (EN 1062-11)	Pass
Adhesive Bond 28 d. (EN 1542)	0.95 N/mm ²
Crack bridging properties (static method) – EN 1062-7	≥ 0,750 mm

¹ Typical properties based on powder to liquid mixing ratio 2,5 to 1

Storage

The product must be stored in accordance with national regulations. Keep the containers in a dry, cool, well ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Shelf life at 23 °C

Liquid Comp - 12 month(s)

Powder Comp - 12 month(s)

Volatile Organic Compounds (VOCs)

According to the Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory j, type WB is 140 g/l (2010) for the ready-to-use product. The ready-to-use product contains a maximum of 40 g/l VOC.

Caution

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. 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.

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