

Vetrofluid®

PERMANENT CONCRETE ANTI-DETERIORATION PROTECTION

FOR PROFESSIONAL USE ONLY – REVISION DATE: January 4, 2024

Ecobeton Vetrofluid® an easy, one-time, permanent application that densifies, strengthens, and protects all concrete from water penetration, chemical degradation, and biological intrusion while substantially improving abrasion resistance. Vetrofluid® is 100% green with zero VOC & is user-friendly.

The Ecobeton formula combines our proprietary catalyst with select silicates allowing the product to penetrate existing and new concrete on average 1-½" to 3", sealing the pores and becoming a permanent part of the internal concrete matrix. Ecobeton Vetrofluid® permanently protects all types of concrete from degradation, dramatically increasing its lifespan, and making your project both fiscally and environmentally responsible.

Properties

Ecobeton Vetrofluid® prevents water intrusion into concrete when applied to either the positive or negative side withstanding pressure of 200 PSI. It is a permanent and definitive treatment.

Ecobeton Vetrofluid® provides concrete with extraordinary resistance to freeze and thaw cycles, chlorides, sulfates, and de-icing salts attack.

Ecobeton Vetrofluid® seals concrete pores, blocking the carbonization of steel and the penetration of chlorides, providing a stable alkaline environment over time and protecting the reinforcing steel.

Ecobeton Vetrofluid® is approved for use over open waterways, contact with drinking water.

Ecobeton Vetrofluid® provides concrete with excellent resistance to chemical attacks.

Ecobeton Vetrofluid® improves concrete heat resistance, to the physical limits of the treated concrete.

Ecobeton Vetrofluid® accepts painting and marking and is compatible with other finishes and overlays.

Ecobeton Vetrofluid® is an odorless, colorless, and non-toxic product.

Uses

Underground structures to prevent water intrusion from both inside and outside.

- Concrete bridges, roadways, barrier walls, Jersey barriers, underpasses, parking structures, dams and tunnels.
- Purification plants, water treatment and storage tanks in contact with aggressive substances.
- All immersed concrete structures to block attacks from chlorides.
- Sewage treatment, biogas plants and biomass facilities.
- Farm structures and cellars (**biological security** for cattle sheds, piggeries, poultry facilities, storage facilities for grains and hay).
- Protects concrete in contact with aggressive acids, chemicals and hydrocarbons.
- Protects concrete subject to severe climatic conditions.
- Stops basement slab moisture and dampness penetration.
- Anywhere you want to increase the durability of concrete.
- Precast cement beams, pipes and irrigation channels.
- Any exposed concrete.

Technical Features

Composition	Proprietary blend of catalyzed selected silicates in solution
Expiry	36-months with unbroken seal.
Flammability	Not flammable
Organic properties	Odorless, colorless liquid
Storages	Store in a dry, protected environment out of UV light and between 40°F - 104°F
VOC Content	None
Curing	3 – 8 days. Walkable after a few hours.
Packaging	1-gallon & 5-gallon standard, special order 264-gallon totes

Certification



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Ecobeton Italy Srl
Via Galileo Galilei 47, 36030 Costabissara (VI)
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Certificate no GB08/76012
DOP no 140107DOP-1504-2

Tests in accordance with ASTM (American Society for Testing and Materials International)

Waterproofing & Concrete Protection Product Tests

ASTM C1202	Rapid Chloride Ion Penetrability: 448 C (< 61%*)
ASTM E96	Water Vapor Transmission: < 26%*
ASTM C1585	Rate of absorption: < 52%*
ASTM C666-A	Freeze/Thaw Durability: 94% relative dynamic modulus through 303 cycles with 1-coat
ASTM C779-C	Abrasion Resistance Improvement: > 30%
ASTM E303	Skid Resistance: Negligible difference wet & dry between treated and untreated
ASTM C1543	15% NaCl Solution Absorption ¹⁾ : < 59%*
	15% NaCl Solution Vapor Transmission < 26%*
ASTM 156	Water retention Comparable results with membrane curing compounds.

1) Dry weight variation after immersion for 1, 3, 7, 14, 21 days.

* Compared with the unsealed sample

Tests in accordance with MTO (Ontario Ministry of Transportation)

MTO LS-412	Salt Scaling Resistance: 0.123 kg/m ² (std < 0.8 kg/m ²)
MTO LS-417	Chloride Content: 0.231% by mass (< 16%*)

Tests in accordance with Army Corps of Engineers

CRD C48-92	Water Permeability of Concrete: 0.0 cm ³ , depth 1-inch @ 200 psi after 10-days.
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UNI EN 1504-2:2005

Ecobeton – Vetrofluid®

Products for the concrete protection on buildings and works of civil engineering

EN 13892	Abrasion resistance: improvement > 30%
EN 1062-3	Capillary absorption and water permeability: w < 0.1 kg/m ² x h _{0,5}
EN 13529	Chemical resistance (astringent attack): no visible defects
EN 13687-1	Thermal compatibility: ≥ 1.5 N/mm ²
EN ISO 6272-1	Falling-weight test: Classes III: ≥ 20 Nm
EN 1542	Bond strength by pull-off: ≥ 1.5 N/mm ²
EN 13501-1	Reaction to fire tests: Euro class A1
	Slip/skid resistance: NA
	Depth of penetration: > 10 mm
	Dangerous substances: absent

The above technical data has been obtained with a dosage of 400 g/m²

Other performance

Properties	Result	Reference Standard
Carbonization	Total resistance	UNI 9944
Contact with drinking water	Suitable	D.M. 21.03.73
Resistance to negative pressure	1MPa – ca 14 atm	Sintef
Freeze-thaw cycles resistance	No visible damages after 300 cycles	UNI 7087/72

Application

Review the material safety datasheet and application guide on www.ecobeton-usa.com prior to use. The product should be applied in two coats on clean surfaces that are free from sealers, cures, oil and grease. The product is not effective on concrete which has been previously sealed. Vetrofluid® can be applied by spraying, roller or brush. Spray application using low-pressure pumps is recommended (max. 72 psi / 5 BAR) normally available for gardening (both manual and electric, no special seals required). For concrete casted in formworks, apply after having removed the release agent. On older existing concrete, wet the surface the day before application. Stir the product thoroughly before use. Ecobeton Vetrofluid® can also be applied as a cure on new concrete.

Application on Vertical Surfaces

On vertical surfaces, apply from the bottom upwards. Apply the first coat to saturation, brushing out any drips or run to ensure an even coat. Apply the second coat after the first coat has visually dried. The product is cured in 8 days under normal conditions; however, the surface is ready after 8 hours. All non-hydrophobic coatings (plaster, concrete castings) can be applied after a few hours, even though it is recommended to wait at least 2-3 weeks for treatments that require a completely dry base (paints, resins, etc.).

Application on underground structures

Repair all panel holes and gravel nests with a mortar/concrete. Treat the surface with Ecobeton Vetrofluid®. It is possible to cover Vetrofluid® treated surfaces with soil after 12 hours.

1. Spray Ecobeton Vetrofluid® on the surface prior to repairs.
2. Apply Ecobeton Vetrofluid® once again when the repair is complete and has dried.

Concrete Slabs/Roads/Runways/Structures

Ecobeton Vetrofluid® can be applied to old or new concrete achieving the same results. Ecobeton Vetrofluid® can also be used as a curing compound.

- Existing concrete shall be pressure washed prior to application of Ecobeton Vetrofluid®. Concrete may be damp but cannot be water saturated (wet, pooled surface water, etc.) prior to application.
- Application to new concrete, any previously applied sealer or curing compounds must be removed prior to the application of Ecobeton Vetrofluid®.
- Ecobeton Vetrofluid® can be used as a curing agent in place of other curing compound products. Apply after the finishing of newly placed concrete while the surface is still wet.

Warning

Temperature: do not apply below 40°F or above 104°F. Do not apply when rain is forecast within 24 hours.

Glass and Aluminum protect glass and aluminum during application (watches, glasses, etc.) as they can be damaged by the product.

Coverage rate

The coverage rate per square foot varies depending on the absorption capacity of the surface treated. In general, treat the concrete until saturated but not pooling. Coverage rate varies from 160-220 square foot per gallon of Ecobeton Vetrofluid® per coat. Coverage rate is affected by the age of the existing concrete, surface porosity, and type of finish; power trowel versus heavy broom will influence the application rate. Existing conditions should be reviewed before the application. A test section may help determine the application rate.

Note: The information contained in this sheet is accurate to the best of our current knowledge. The products are guaranteed and have the highest quality and standard with regard to product tolerances. As it is impossible to carry out any controls on the application at the product, no express or implicit guarantee is provided as regards the final result and no responsibility is accepted directly or indirectly by the use of the products. Users are encouraged to carry out tests before application.