

# Product Information

## High Performance Building

DOW CORNING

# Dow Corning® IE-6683 Water Repellent Emulsion

## FEATURES

- *Dow Corning*® IE-6683 Emulsion is a water based silane-siloxane emulsion which can be used as supplied or diluted in water to formulate water repellent products.
- *Dow Corning* IE-6683 Emulsion can be diluted with water.
- *Dow Corning* IE-6683 Emulsion is free of Si-H based polymer.
- *Dow Corning* IE-6683 Emulsion is solvent-free and releases little Volatile Organic Content (VOC) upon reaction.
- Their small molecular structure allows silanes to impregnate the substrate.
- Silanes react chemically and bond with the substrate which produces durable hydrophobic treatment.

## BENEFITS

- Construction materials post treated with *Dow Corning* IE-6683 Emulsion are resistant against capillary absorption of water.
- Dilutions of *Dow Corning* IE-6683 Emulsion are effective as water repellent at weight % of active ingredients as low as 4%.

## COMPOSITION

- Oil in water silane-siloxane emulsion.
- 40% weight of active ingredients
- Active ingredients contain alkoxy silane and polydimethylsiloxane.

Water Repellent for porous Construction Materials

## APPLICATIONS

- Imparting water repellency to porous construction materials such as cementitious materials (mortar and render/stucco), bricks and stones.

## TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Result
Color		Milky White
Active Ingredient	%	40
Specific Gravity		1.0
pH		4.0-6.0
Volatile Organic Content <sup>1</sup>		
Exclusive of Water	g/l	<200
Inclusive of Water	g/l	85

<sup>1</sup>Calculated in accordance with the California Air Resource Board regulations.

## DESCRIPTION

*Dow Corning* IE-6683 Emulsion is a 40 % active non ionic silane-siloxane-based emulsion. Silanes are well known for their ability to impregnate and chemically react with masonry or cement-based material, provide hydrophobicity and reduce the water ingress in treated materials.

*Dow Corning* IE-6683 Emulsion releases ethanol during curing.

*Dow Corning* IE-6683 Emulsion can be used in many application areas where the protection of the substrate from liquid water ingress is required.

## HOW TO USE

*Dow Corning* IE-6683 Water Repellent Emulsion can be diluted with water, incorporated into building materials or used as an ingredient in the formulation of water-repellent, water-based paints and coatings.

For post-treatment applications, dilutions with 4 to 10% actives content are typical, depending on the porosity of the substrate and performance requirement. An actives level of 5% (1 part *Dow Corning* IE-6683 Water Repellent Emulsion to 7 parts water) is usually adequate for general purpose formulations.

The water should be added to the emulsion with low shear mixing. Deionized water is recommended for dilution. To prevent mold growth within the package, additional preservative may be required. After dilution, it is advised to make sure the pH is maintained in the 5-8 range.

**HANDLING PRECAUTIONS**  
PRODUCT SAFETY  
INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT

AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEB SITE AT DOW CORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

**USABLE LIFE AND STORAGE**

When stored between 0 and 30°C (32 and 86°F) in the original unopened containers, *Dow Corning* IE-6683 Water Repellent Emulsion has a usable life of 18 months from the date of production.

**PACKAGING INFORMATION**

*Dow Corning* IE-6683 Water Repellent Emulsion is available in 20-, 200- and 1000-kg (44.1-, 440.9- and 2204.6-lb) containers, net weight.

**LIMITATIONS**

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Water uptake of cement-based material under constant hydrostatic pressure cannot be reduced by use of *Dow Corning* IE-6683 Water Repellent Emulsion.

**HEALTH AND ENVIRONMENTAL INFORMATION**

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

**Table 1: Wind Driven Rain Resistance of Concrete Treated with *Dow Corning* IE 6683 water Repellant Emulsion<sup>1</sup>**

Method	Test	Unit	Result
ASTM E514	Wind driven rain resistance, penetration reduction	%	88.7
ASTM E514	Wind driven rain resistance, leakage reduction	%	100

**Table 2: “Initial effectiveness, secondary effects and durability of water repellant *Dow Corning* IE 6683” (Test report from WTCB-CSTC in Belgium)<sup>1</sup>**

Method	Test	Unit	Result
Rilem tube	Water absorption of untreated brick	ml	36.9
Rilem tube	Water absorption of treated brick	ml	0.10

<sup>1</sup>Based on certified independent laboratory testing. For complete details contact a *Dow Corning*® Sales Application Engineer

For further information, please see our Web site, [dowcorning.com](http://dowcorning.com) or consult your local Dow Corning representative.

**LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY**

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer’s tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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