



Technical Data Sheet

DOWSIL™ IE 6692 Emulsion

Integral water repellent for cement-based construction

Features & Benefits

- DOWSIL™ IE 6692 Emulsion is a water based silane emulsion which can be used as admixture in cementitious materials.
- Silanes react chemically within the cementitious matrix and provide integral water repellent treatment.
- Treated cement-based materials are resistant against water absorption throughout the material.
- As a water-based emulsion, DOWSIL™ IE 6692 Emulsion provides easy incorporation of silanes in cement-based slurry.
- DOWSIL™ IE 6692 Emulsion can be used as supplied or diluted in water prior to addition in cement slurry.
- When used as an additive to cementitious matrix, silane emulsion can impart the following benefit to the final material:
 - Significant reduction in capillary absorption of water.
 - Little to no reduction of water vapor permeability.
 - Significant reduction of ingress and transfer of water-soluble salts through the matrix (i.e. efflorescence).
 - Reduction of water uptake is resistant to UV exposure.

Composition

- Water dilutable emulsified silane.
- 52.5 weight % of active ingredient.
- Active ingredients include alkoxysilane.

Applications

- Admixture for cement-based construction materials with improved water resistance (e.g. pavers).

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

CTM ¹	Property	Unit	Result
0176	Color		Milky white
0862	Active Content	%	52.5
0007	pH		5–9
0001	Density	g/ml	0.95
	Solvent (Thinner)		Water

1. CTM: Corporate Test Method, copies of CTMs are available on request.

Description

DOWSIL™ IE 6692 Emulsion is a 52.5% active non ionic emulsion containing alkoxysilanes. Silanes are well known for their ability to provide hydrophobicity and decrease dramatically the water ingress of cementitious materials. Silane supplied in emulsion can chemically react with cement hydrate during cement cure. Alcohol is released upon reaction of the silanes.

How to Use

It is advised to stir DOWSIL™ IE 6692 Emulsion prior to its application.

DOWSIL™ IE 6692 Emulsion can be used as supplied or can be diluted in water before use. The water should be added to the emulsion with low shear mixing. Deionized water is recommended for dilution. After dilution, it is advised to make sure the pH is maintained in the 5–9 range. To prevent mold growth within the package, additional preservative may be required if the diluted emulsion is expected to be stored.

DOWSIL™ IE 6692 Emulsion can be used as an admixture to cementitious mixtures at levels between 0.1 to 0.2% by weight of DOWSIL™ IE 6692 Emulsion as supplied based on the dry composition weight.

If calculated to cement mass, an addition level of DOWSIL™ IE 6692 Emulsion between 0.4 and 0.8% vs cement is advised.

Tested as integral water repellent in EN¹ 196-1 mortar, addition of 0.2% DOWSIL™ IE 6692 Emulsion was shown to have limited impact on mechanical properties. It is however strongly advised to carry out an evaluation of DOWSIL™ IE 6692 Emulsion addition on the physical properties of the targeted cementbased materials prior to any use in full scale application.

¹EN: European Norm. Method of testing cement. Determination of strength

Mix Before Use

During storage, some product stratification may be observed; therefore, it is recommended that DOWSIL™ IE 6692 Emulsion be mixed prior to use or down-packaging to ensure homogeneity. Small bottles can be hand mixed or mixed on a mixing wheel. Larger packaging, such as pails or drums, can be rolled. Tote packages can be mixed with the use of a tote mixer. To reduce the risk of microbial and physical contamination, minimize the duration that containers are open, and use only clean and sanitized equipment and tools. Further, to avoid the risk of over-shearing during tote mixing, pitched blades are recommended rather than cowles-style or other higher shear blades. Variable speed mixers are recommended, as speed may need to be adjusted to ensure mixing efficiency depending on product viscosity. Finally, a multiple blade assembly be necessary to avoid stagnant zones and ensure appropriate mixing occurs throughout the tote.

Mix Before Use (Cont.)

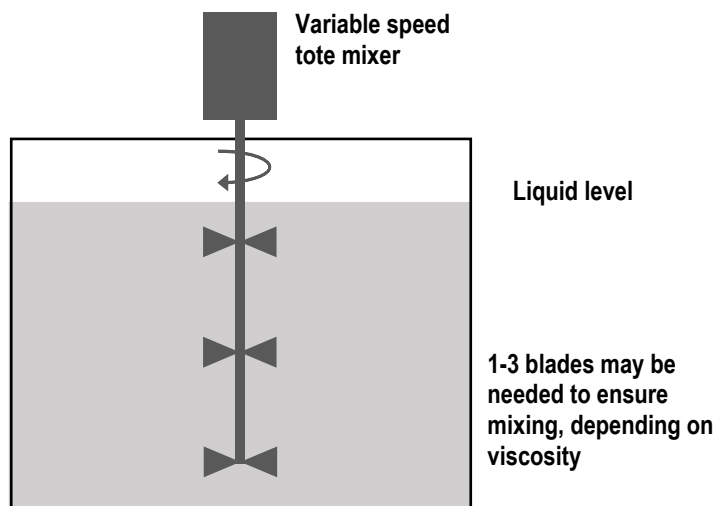


Figure 1. Example tote mixing configuration

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at or below 40°C (104°F) in the original unopened containers, this product has a usable life of 12 months from the date of production.

Protect from freezing.

Packaging Information

This product is available in 200 kg drums and 1,000 kg containers.

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 DOWSIL™ IE 6692 Emulsion.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

dow.com

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