Technical Data Sheet

XIAMETER™ OFS-6020 Silane

Diaminofunctional silane

Features & Benefits

- Coupling agent
- Improved adhesion
- Increased wet and dry tensile strength and modulus to the composite
- Increased wet and dry flexural strength and modulus to the composite
- Increased wet and dry compressive strength
- Improved compatibility between inorganic filler and organic polymer

Applications

- XIAMETER™ OFS-6020 Silane has been found to be an effective coupling agent for clay reinforced elastomers such as natural and nitrile rubber. The silane-treated clay provides improvement in both physical and dynamic properties compared to similar cured elastomers containing untreated clay.
- XIAMETER OFS-6020 Silane has been reported to be an effective coupling agent for mineral reinforced nylon 6, nylon 6/6 and polybutyleneterephthalate
- Fiberglass reinforced phenolic, melamine and epoxy thermoset composites, either as fiberglass finish or as resinous additive.
- As an additive to improve the performance of these types of thermoset resins when they are used as mineral binders in foundry and abrasive composite applications.
- Coupling agent for phenolic, melamine and other organic resins used as binders for glass and mineral wood insulation, abrasives and molding components.

Typical Properties

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

Property	Unit	Result
Appearance		Clear liquid
Flash point – closed cup	°C (°F)	85 (185)
Specific gravity at 25°C (77°F)		1.03
Refractive index		1.445
Neutral equivalents	g/eq	115
Color		Light straw
Viscosity	mm^2/s	5

Form No. 95-441-01 D

Description

XIAMETER OFS-6020 Silane possesses both organic and inorganic reactivity. XIAMETER OFS-6020 Silane can react with organic polymers and glass or other inorganic mineral surfaces.

How To Use

When used as a resin additive, generally the silane is added at a level of less than 1% based on the weight of the resin solids. For each specific application, the optimum level of additive should be determined by testing several concentrations. When used as an additive to epoxy coatings, this product improves adhesion of the coating, particularly in a very humid environment.

XIAMETER OFS-6020 Silane can be applied to inorganic surfaces, like other silanes, as a dilute aqueous solution (0.1% to 0.5%) silane concentration). Aqueous solutions can be prepared by simply adding the silane to water with stirring.

However, poor agitation when adding XIAMETER OFS-6020 Silane to water can result in locally high concentration which may form gel particles. It is normally recommended that the silane solution be acidified to a pH of 3.0 to 4.5 with an organic acid, such as acetic acid, to obtain optimum performance of reinforcing material such as fiberglass.

Inorganic surfaces can be treated with the aqueous solution by either dipping or padding. In the case of siliceous mineral fillers, the mineral can be treated by slurrying in the aqueous solution or mixed with the silane at very high shear without any additional solvent.

After applying the silane, the glass or mineral surface can be air dried or dried briefly at 105° to 120°C (221°–248°F) to effect complete condensation of silanol groups at the surface and to remove water and/or traces of methanol. Optimum application and drying conditions, such as time and temperature, should be determined for each application prior to use in a commercial process.

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 WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life And Storage

Product should be stored at or below 25°C (77°F) in original, unopened containers.

Keep away from heat and open flame.

Limitations

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

Not intended for human injection.

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, www.consumer.dow.com or consult your local Dow representative.

http://www.xiameter.com

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