Silanes can be chosen to impart hydrophobic (water repellent) and/or oleophobic (oil and stain repellent) characteristics to surfaces. Silanes with alkyl groups (such as butyl and octyl) and aromatic groups (such as phenyl) and even some organofunctional groups (such as chloropropyl and methacrylate) are hydrophobic. Similarly, silanes containing fluoroalkyl groups are oleophobic (oil repellent). Alkoxyisilyl groups attached to these silanes allow them to actually penetrate, cure in and even bond to many inorganic substrates. These unique properties allow for versatile and durable formulating solutions for protection against harmful water- and oil-borne elements.
XIAMETER® brand water and stain repellent materials can be used in solvent- or water-based systems to provide the formulating flexibility needed to meet VOC and ease-of-use requirements. These silane-based water and stain repellents are available for use in formulations that penetrate a broad range of substrates, including:

- Poured-in-place or pre-cast concrete
- Concrete block
- Sandstone/granite
- Brick/tile/grout
- Wood
- Gypsum/perlite
- Limestone/marble

Silane-based water repellents create an envelope of protection that extends the life of substrates for years in challenging environments. Potential benefits include:

- Excellent water repellency
- Long-term durability
- UV stability
- Depth of penetration
- Water vapor permeability
- High dilution capability and stability
- Clear, uniform, neutral appearance

Benefits of protection include:

- Reduced efflorescence
- Reduced freeze-thaw damage
- Chloride ion resistance to deter corrosion of reinforcing steel in concrete structures
- Preservation of aesthetics

Other Surface Protection Applications

The XIAMETER® brand product line also includes silicates and siliconates for use in formulating pore-blocking sealers and consolidators. These silicates and siliconates are alkali metal salts of hydrophobic silane oligomers. They adhere tenaciously to inorganic substrates and surfaces in much the same way as simple alkoxy silanes do. Applications for these materials fall into two groups: sealers and consolidators.

Sealers fall into two sub-groups:

- **Pore blockers** provide little penetration and, instead, form a resin barrier on the concrete's surface. Pore blockers are further distinguished by their ability to partially or fully fill the surface pores, a capability not shared by hydrophobing agents.

- **Hydrophobing agents**, on the other hand, penetrate the material deeply. They allow the concrete to breathe and do not interfere with concrete cure.

Consolidators can extend the life of stone and concrete because they penetrate and cure in and through these materials to help bind them together. They are used in a variety of restoration and flooring applications.

Product Information

A complete list of XIAMETER® brand silanes for water repellents and surface protection is available at xiameter.com.

In addition, Dow Corning Corporation also offers a wide variety of Dow Corning® brand specialty silicone material and service options as well as other silicon-based materials available to help you keep your innovative edge in the marketplace. Visit dowcorning.com to learn more about the many additional silicone and silicon-based options available to you from Dow Corning.
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.

Dow Corning’s sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

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.

DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Dow Corning is a registered trademark of Dow Corning Corporation.

XIAMETER is a registered trademark of Dow Corning Corporation.

©2009 Dow Corning Corporation. All rights reserved.

Printed in USA AGP0701 Form No. 95-723-01