Consumer Solutions

Construction Chemical Solutions for Building Materials Protection
Real solutions for real market needs
Nature can be a tough adversary. From the moment we start building a structure, the forces of nature are at work to damage it ... through water intrusion, sunlight, wind and abrasion, attack by organisms, and even spills and stains that affect appearance. Advanced solutions from Dow incorporate new ideas in additives, processing techniques and product formulations to make construction materials more durable.

**More durable materials = more durable buildings = better performance = lower cost and less impact on the environment**

Technologies from Dow can help you invent the future of building materials protection with:

- Hydrophobic treatments
- Silicone resin and binding products
- Process aids
- Innovative collaboration to meet your specific needs
  - Solvent-based or water-based
  - Admixture or post-treatments
  - Low VOCs
  - Ease of use

Choose from a wide range of silanes, siloxanes, resins, additives, blends and emulsions to maximize substrate life, reduce maintenance, improve aesthetics and – most importantly – meet customer demands for superior performance.

**Because selecting the right building materials protection products now can prevent costly repairs later!**
Discover Innovative Technology from Dow

Color Enhancer for Natural Stone Substrates

Construction chemicals from Dow can reveal or intensify the beauty of natural stone and cementitious substrates. In addition to being excellent impregnation sealers for building materials, several of our construction chemicals also can be used to deepen tones to achieve a wet look. You can maintain the clear appearance or accentuate the color of building substrates as desired.

Building Materials Protection Product Selection

**FIBER-REINFORCED CEMENT (FRC)**

**Admixture:**
- DOWSIL™ Z-6289 Resin
- DOWSIL™ BY 16-606 Fluid

**Post-treatment:**
- DOWSIL™ IE 6682 Emulsion
- DOWSIL™ 520 Dilutable Water Repellent Emulsion
- DOWSIL™ IE 6683 Emulsion

**REINFORCED CONCRETE**

**Alkoxy silanes:**
- XIAMETER™ OFS-6341 Silane
- XIAMETER™ OFS-2306 Silane
- XIAMETER™ OFS-6403 Silane

**Formulated water repellents:**
- DOWSIL™ IE 6683 Emulsion
- DOWSIL™ IE 6694 Water Repellent
- DOWSIL™ Z-6689 Water Repellent
- DOWSIL™ IE 6682 Emulsion

**WOOD**

Additives for wood impregnation sealer

**Formulated impregnants:**
- DOWSIL™ Z-6690 Water Repellent
- DOWSIL™ 6691 Fluid
- DOWSIL™ 16184 Water Repellent
- DOWSIL™ IE 6683 Emulsion
- DOWSIL™ 6696 Emulsion
- DOWSIL™ 29034 Emulsion

**Siloxane:**
- XIAMETER™ OFS-0777 Siliconate

**GYPSUM**

**Siloxane:**
- XIAMETER™ MHX-107 Fluid, 30cst

**Siloxane:**
- XIAMETER™ OFS-0777 Siliconate
- XIAMETER™ OFS-0772 Siliconate

**Siloxane:**
- DOWSIL™ IE-2404 Emulsion

**WOOD**

**Additives for wood impregnation sealer**

**Formulated impregnants:**
- DOWSIL™ Z-6690 Water Repellent
- DOWSIL™ 6691 Fluid
- DOWSIL™ 16184 Water Repellent
- DOWSIL™ IE 6683 Emulsion
- DOWSIL™ 6696 Emulsion
- DOWSIL™ 29034 Emulsion

**Siloxane:**
- XIAMETER™ OFS-0777 Siliconate
- XIAMETER™ OFS-0772 Siliconate
- DOWSIL™ 2-9034 Emulsion
- DOWSIL™ 6696 Emulsion

**NATURAL STONE: SANDSTONE, GRANITE**

**Siloxane:**
- DOWSIL™ MH 1109 Fluid

**Formulated water repellents:**
- DOWSIL™ 520 Dilutable Water Repellent Emulsion
- DOWSIL™ IE 6683 Emulsion
- DOWSIL™ IE 6694 Water Repellent
- DOWSIL™ Z-6689 Water Repellent
- DOWSIL™ IE 6682 Emulsion
- DOWSIL™ IE 6694 Emulsion
- DOWSIL™ MR-2404 Resin

**DECORATIVE CONCRETE, PRECAST CONCRETE, MORTAR, TILE GROUT, EIFS, RENDERS, STUCCO**

**Formulated water repellent:**
- DOWSIL™ IE 6683 Emulsion
- DOWSIL™ IE 6694 Water Repellent
- DOWSIL™ Z-6689 Water Repellent

**Admixtures:**
- DOWSIL™ Z-6289 Resin
- DOWSIL™ IE 6692 Emulsion
- DOWSIL™ IE 6686 Water Repellent
- DOWSIL™ BY 16-846 Fluid
- DOWSIL™ BY 16-606 Fluid

**Dry powder:**
- DOWSIL™ GP SHP 50 Silicone Hydrophobic Powder
- DOWSIL™ GP SHP 60 Plus Silicone Hydrophobic Powder

**Integral Water Repellent**

**Post-Treatment Water Repellentoating**

**Architectural Coating**

**Dry Mix**

**Hydrophobic:**
- DOWSIL™ GP SHP 50 Silicone Hydrophobic Powder
- DOWSIL™ GP SHP 60 Plus Silicone Hydrophobic Powder

**Mortar/FRC/ Prefabricated Concrete**

- DOWSIL™ Z-6289 Resin
- DOWSIL™ IE 6692 Emulsion
- DOWSIL™ IE 6686 Water Repellent
- DOWSIL™ BY 16-846 Fluid
- DOWSIL™ BY 16-606 Fluid

**Antifoam:**
- XIAMETER™ AFE-0400 Antifoam Emulsion

**Strengthening:**
- XIAMETER™ OFS-6697 Silane

**Solvent-Based**

- DOWSIL™ Z-6689 Water Repellent
- DOWSIL™ MR-2404 Resin
- XIAMETER™ OFS-6341 Silane
- XIAMETER™ OFS-2306 Silane
- XIAMETER™ OFS-6403 Silane
- DOWSIL™ 6691 Fluid

**For DPC application:**
- DOWSIL™ 1-6184 Water Repellent
- DOWSIL™ IE-6887 Emulsion

**Water-Based**

- DOWSIL™ IE 6683 Emulsion
- DOWSIL™ IE 6694 Water Repellent
- DOWSIL™ IE 6682 Emulsion
- DOWSIL™ 520 Dilutable Water Repellent Emulsion
- XIAMETER™ OFS-0777 Siliconate
- XIAMETER™ OFS-0772 Siliconate
- DOWSIL™ 2-9034 Emulsion
- DOWSIL™ 6696 Emulsion

**Binding Hydrophobing**

- DOWSIL™ IE-2404 Emulsion
- DOWSIL™ Z70 Emulsion
- DOWSIL™ IE 6883 Emulsion

1 Additional antifoam emulsions are available. Please contact your Dow Technical Service associate for assistance.

2 DPC = “damp proof coursing,” which is not widely practiced in North America.
**Physical and Chemical Properties of Silicones**

Silicones are present in many forms and functionalities and can be used in combination to yield specific desired properties.

**Silicone Chemistry: The Unique Properties of Silicones**

<table>
<thead>
<tr>
<th>Molecular Characteristics</th>
<th>Physicochemical Properties</th>
<th>Applications</th>
</tr>
</thead>
</table>
| • Highly open, flexible and mobile siloxane backbone:  
  \( \text{Si} - \text{O} - \text{Si} - \text{O} - \text{Si} - \text{O} - \)  
• High bond strength as compared to organics:  
  \( 435 \text{ kJmol}^{-1} \text{ Si-O} \)  
  vs.  \( 350 \text{ kJmol}^{-1} \text{ C-C} \)  | • Low surface tension and energy  
• High spreading and wetting capabilities  
• Permeable to gas and water vapor  
• Heat and UV stability  
• Compatibility with organics  
• Weather resistance | • Lubricant  
• Anti-fouling  
• Release agent  
• Aesthetic feel (softness)  
• High-temperature processing  
• Can be sterilized  
• Hydrophobic/hydrophilic  
• Breathable – gas-permeable |

The terminology around silicon chemistry can be confusing. The following table will help you understand how the various forms of silicon can be developed into formulations to protect or enhance your construction products.

**Silicon Chemistry Glossary**

<table>
<thead>
<tr>
<th>Silicon → Silica → Silane → Siloxane</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Silicon = Si</strong>. Second most abundant element on Earth. Atomic number 14. Able to form four stable bonds like carbon.</td>
<td>Unique reactivity allows chemistry similar to carbon, but – especially when bonded to oxygen – forms a longer, stronger, more flexible chemical bond.</td>
</tr>
<tr>
<td><strong>Silica = SiO(_2)</strong>. The simplest compound of silicon. Very common as sand or quartz (crystalline) or refined forms such as silica fume, precipitated or fumed silica (amorphous).</td>
<td>Silica is used as a mineral reinforcement for many filled polymer systems and exists in many useful forms. Silica fume (microsilica) is an extremely effective pozzolanic material used in concrete to increase strength and chemical resistance and decrease porosity.</td>
</tr>
<tr>
<td><strong>Silane</strong>. A molecule comprised of one central silicon atom with four attachments. The attachments can be any combination of organic or inorganic groups.</td>
<td>Alkoxy silanes with attached alkyl groups are efficient and effective water repellent treatments for concrete and masonry. Silanes with both organic and inorganic attachments are used as coupling agents with many useful variations.</td>
</tr>
<tr>
<td><strong>Silicone or Siloxane</strong>. An oligomeric or polymeric compound with repeating Si-O (siloxane) “units.”</td>
<td>Inherently resistant to UV, heat and oxidative degradation, silicones can be made as linear fluids, functional polymers and resins. By varying structure, attachments and molecular weight, they can be made into thousands of useful products.</td>
</tr>
<tr>
<td><strong>Silicone Emulsion</strong>. In silicone technology, typically a silicone polymer suspended in water by means of stabilizing surfactants. More than one ingredient can be suspended within an emulsion.</td>
<td>Emulsion technology allows waterborne formulations to be used to deliver many types of ingredients that would otherwise require solvents or would be too viscous to use effectively.</td>
</tr>
<tr>
<td><strong>Formulations and Blends</strong>. Multi-ingredient compositions intended for specific uses.</td>
<td>Formulated products can take advantage of more than one type of material in a common package. For example, silane reactivity and penetration can be combined with siloxane mobility and water beading. Blends and formulations can be made with basic fluids, diluted with solvent, made into emulsions or even transformed into powders.</td>
</tr>
</tbody>
</table>
Most siloxanes and silanes are very small molecules and, when applied to the surface of a suitable substrate, penetrate deeply. They react with the substrate and themselves to provide durability. When cured, they allow water vapor transmission while preventing liquid water – which could contain dissolved chloride ions or acids – from passing into the substrate.

Figure 2. SiOH groups chemically bond to the substrate and condense to form a polymer film on the surface.

SiOH groups formed when the silane reacts with water (hydrolysis) can further react with SiOH groups (via condensation) in the substrate and form chemical attachments. Condensation also occurs between silanes, forming an Si-O-Si polymer. The alkyl groups (R groups) orient away from the surface to very effectively repel water.
<table>
<thead>
<tr>
<th>Product Type</th>
<th>Product Name</th>
<th>Dilution System (if needed)</th>
<th>General Description</th>
<th>Substrate/pH Type</th>
<th>Active Ingredient %</th>
<th>Typical Actives Usage Level</th>
<th>Specific Gravity</th>
<th>Flash Point, °C (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silane/ Siloxane Emulsions (Water-Dilutable)</td>
<td><strong>DOWSIL™ 520 Dilutable Water Repellent Emulsion</strong></td>
<td>Water</td>
<td>Silane/SiH siloxane emulsion blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>40</td>
<td>5 to 20</td>
<td>0.99</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ IE 6682 Emulsion</strong></td>
<td>Water</td>
<td>Silane/alkoxy resin</td>
<td>Post-treatment (‘primer’) for concrete or cementitious materials</td>
<td>52.5</td>
<td>5 to 20</td>
<td>0.95</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ IE 6683 Emulsion</strong></td>
<td>Water</td>
<td>Silane/siloxane resin blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>40</td>
<td>5 to 20</td>
<td>1</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ IE-6687 Emulsion</strong></td>
<td>Water</td>
<td>Silane/functional resin emulsion blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>52.5</td>
<td>5 to 20</td>
<td>0.98</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ IE 6692 Emulsion</strong></td>
<td>Water</td>
<td>Silane/functional silicone emulsion blend; contains no free siloxane</td>
<td>Integral water repellent</td>
<td>52.5</td>
<td>0.1 to 0.4 vs. dry composition</td>
<td>0.95</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ IE 6694 Water Repellent</strong></td>
<td>Water</td>
<td>Low-VOC (&lt;100 g/L) silane/siloxane emulsion blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>60</td>
<td>5 to 20</td>
<td>1.02</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ 6696 Emulsion</strong></td>
<td>Water</td>
<td>Silane/siloxane emulsion</td>
<td>Wood</td>
<td>40</td>
<td>5 to 10</td>
<td>0.99</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ Z70 Emulsion</strong></td>
<td>Water</td>
<td>Silanol-functional siloxane emulsion</td>
<td>Hydrophobic additive for paint and render; used on cement-based materials; post-treatment for substrates with pH 7-10; admixture for substrates where pH is not a concern</td>
<td>60</td>
<td>0.15 to 0.5</td>
<td>0.99</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td>Water-Based Siloxane</td>
<td><strong>DOWSIL™ 1-6184 Water Repellent</strong></td>
<td>Water</td>
<td>Water-soluble siloxane</td>
<td>pH neutral to 10</td>
<td>98</td>
<td>3.5 to 7.5</td>
<td>1.05</td>
<td>27 (81)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ Z-6689 Water Repellent</strong></td>
<td>Solvent</td>
<td>Solventless silane/siloxane blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>98</td>
<td>5 to 15</td>
<td>0.96</td>
<td>10 (50)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ Z-6690 Water Repellent</strong></td>
<td>Solvent</td>
<td>Silane/siloxane blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>&gt; 99</td>
<td>5 to 15</td>
<td>1.02</td>
<td>44 (111)</td>
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<td></td>
<td><strong>DOWSIL™ 6691 Fluid</strong></td>
<td>Solvent</td>
<td>Solventless silane/siloxane blend</td>
<td>Multisurface water repellent; neutral and moderately alkaline substrates; pH 7-10</td>
<td>&gt; 99</td>
<td>5 to 15</td>
<td>1.025</td>
<td>100 (212)</td>
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<tr>
<td>Silicone Resin Emulsion</td>
<td><strong>DOWSIL™ IE-2404 Emulsion</strong></td>
<td>Water</td>
<td>Silicone resin emulsion</td>
<td>Renders/paints/stucco on cementitious material</td>
<td>50</td>
<td>3 to 10</td>
<td>1.02</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ IE - 6686 Water Repellent</strong></td>
<td>Water</td>
<td>Emulsion of silicone resin</td>
<td>Cement-based materials</td>
<td>30</td>
<td>0.2 to 0.8 vs. cement content</td>
<td>0.99</td>
<td>50 (122)</td>
</tr>
<tr>
<td>Hydrophobic Powders</td>
<td><strong>DOWSIL™ GP SHP 50 Silicone Hydrophobic Powder</strong></td>
<td>Dry ingredient</td>
<td>Silane/siloxane-based powder</td>
<td>Hydrophobic powder additive in cementitious-based materials</td>
<td>20</td>
<td>0.2 to 1</td>
<td>0.61</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td></td>
<td><strong>DOWSIL™ GP SHP 60 Plus Silicone Hydrophobic Powder</strong></td>
<td>Dry ingredient</td>
<td>Resin/siloxane-based powder</td>
<td>Hydrophobic powder additive in cementitious-based materials</td>
<td>20</td>
<td>0.1 to 1</td>
<td>0.7</td>
<td>&gt; 100 (212)</td>
</tr>
<tr>
<td>Product Type</td>
<td>Product Name</td>
<td>Dilution System (if needed)</td>
<td>General Description</td>
<td>Substrate/pH Type</td>
<td>Active Ingredient %</td>
<td>Typical Actives Usage Level</td>
<td>Specific Gravity</td>
<td>Flash Point, °C (°F)</td>
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<tr>
<td>Specialty Fluids</td>
<td>DOWSIL™ BY 16-846 Fluid</td>
<td>Solvent1 Functional siloxane</td>
<td>As an admixture-type additive for neutral and alkaline factory manufactured ALC boards; for autoclave</td>
<td>100</td>
<td>0.1 to 3</td>
<td>0.92</td>
<td>&gt; 100 (212)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ MHX-1107 Fluid, 30cSt</td>
<td>Solvent Linear SiH-functional siloxane</td>
<td>Gypsum</td>
<td>100</td>
<td>0.1 to 2</td>
<td>1</td>
<td>93 (200)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DOWSIL™ MH 1109 Fluid</td>
<td>Solvent SiH-functional siloxane</td>
<td>Natural stone: limestone, sandstone, marble, granite; pH neutral to 12</td>
<td>100</td>
<td>5 to 30</td>
<td>0.98</td>
<td>30 (86)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DOWSIL™ Z-6289 Resin</td>
<td>Solvent1 Alkoxy-functional silsesquinoxane Fiber-reinforced composites, concrete, masonry; admixture or post-treatment</td>
<td>100</td>
<td>0.1 to 0.5 vs. dry composition</td>
<td>0.98</td>
<td>&gt; 100 (212)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>DOWSIL™ MR-2404 Resin</td>
<td>Solvent Alkyl-functionalized low-viscosity silicone resin Neutral and alkaline mineral substrates such as brick, sandstone or cement-based materials</td>
<td>&gt; 88</td>
<td>2 to 10</td>
<td>1.1</td>
<td>95 (203)</td>
<td></td>
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<tr>
<td></td>
<td>DOWSIL™ BY 16-606 Fluid</td>
<td>Solvent1 Functional siloxane</td>
<td>As an admixture-type additive for neutral and alkaline factory manufactured ALC boards; for air cure</td>
<td>100</td>
<td>0.1 to 3</td>
<td>0.94</td>
<td>&gt; 80 (176)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ PMX-0930 Silanol Fluid</td>
<td>Solvent Silanol-functional siloxane Perlite admixture or post-treatment material</td>
<td>100</td>
<td>0.5 to 5</td>
<td>0.98</td>
<td>100 (212)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siloxane/Organic Emulsion</td>
<td>DOWSIL™ 2-9034 Emulsion</td>
<td>Water Silane/organic polymer emulsion Hydrophobic additive for wood sealer formulations</td>
<td>50</td>
<td>2 to 8</td>
<td>0.94</td>
<td>&gt; 100 (212)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-0772 Siliconate</td>
<td>Water Sodium methyl silicate Neutral, bricks, ceramics; pH neutral to 10</td>
<td>32</td>
<td>0.5 to 3</td>
<td>1.25</td>
<td>&gt; 100 (212)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-9777 Siliconate</td>
<td>Water Potassium methyl silicate Neutral, bricks, ceramics; pH neutral to 10</td>
<td>40</td>
<td>0.5 to 3</td>
<td>1.29</td>
<td>&gt; 100 (212)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siliconates</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-6264 Silane</td>
<td>Solvent Alkyl methoxy silane Alkaline or neutral substrates such as concrete, mortar and brick, stone; pH slightly alkaline to 12</td>
<td>97</td>
<td>5 to 100</td>
<td>0.93</td>
<td>26.6 (79)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-6341 Silane</td>
<td>Solvent Alkyl ethoxy silane Alkaline or neutral substrates such as concrete, mortar and brick, stone; pH slightly alkaline to 12</td>
<td>98</td>
<td>5 to 100</td>
<td>0.88</td>
<td>65 (149)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-6403 Silane</td>
<td>Solvent Alkyl ethoxy silane Alkaline or neutral substrates such as concrete, mortar and brick, stone; pH slightly alkaline to 12</td>
<td>98</td>
<td>5 to 100</td>
<td>0.88</td>
<td>62 (144)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-6697 Silane</td>
<td>Solvent Tetraethoxysilane Alkaline or neutral substrates such as concrete, mortar and brick, stone; pH slightly alkaline to 12; may be used as densifier for concrete</td>
<td>99</td>
<td>5 to 100</td>
<td>0.93</td>
<td>54 (113)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XIAMETER™ OFS-2306 Silane</td>
<td>Solvent Alkyl methoxy silane Alkaline or neutral substrates such as concrete, mortar and brick, stone; pH slightly alkaline to 12</td>
<td>96</td>
<td>5 to 100</td>
<td>0.92</td>
<td>32 (90)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Products can be used under certain conditions in water-containing mixtures. Please consult your Dow Technical Service associate or refer to the specific product data sheet for additional details.
Admixture Product Selection Tree

What kind of material needs to be treated?

- Gypsum-Based
  - Admixture for board production?
    - Gypsum Board
      - Post-Treatment
        - XIAMETER™ OFS-0777 Siliconate
    - Gypsum Plaster
      - Admixture
        - XIAMETER™ MHX-1107 Fluid, 30cSt
        - XIAMETER™ OFS-0777 Siliconate
        - or combination

- Cement-Based
  - Is the cementitious material formulated as a dry mix?
    - YES
    - NO
  - Do you need extra beading and hydrophobic performance?
    - YES
    - NO
  - Do you need hydrophobic admixture?
    - YES
    - NO
  - Do you require a water-based formulation?
    - NO
    - YES
  - Does your process involve an autoclave?
    - NO
    - YES
  - Is the substrate a fiber-reinforced cement board?
    - NO
    - YES

Admixture or combination1

Antifoam:
- XIAMETER™ AFE-0400 Antifoam Emulsion2

Post-treatment product range

1For formulating safe and effective gypsum admixtures, contact your Dow Technical Service associate.
2Additional antifoam emulsions are available. Please contact your Dow Technical Service associate for assistance.
Protecting Buildings Saves Energy

Beyond the cost savings of longer-lasting, more durable buildings, Dow’s building materials protection products can save energy costs, too. Treating substrates with hydrophobic materials from Dow makes your buildings more energy efficient, reducing two leading causes of structure heat loss:

- **Heat loss from evaporation of absorbed water in untreated materials** – As water evaporates, changing from liquid to vapor, it draws heat energy, cooling the substrate and structure and increasing energy consumption.
- **Thermal conductivity** – Testing shows that thermal conductivity of wet material is higher than that of dry material.

Hydrophobing technologies from Dow keep substrates dry, reducing thermal conductivity and increasing your energy efficiency.

**Figure 3.** Infrared imaging of treated and untreated substrates.

The reduced heat loss from evaporation of treated, dry substrates compared to untreated, wet substrates is visibly demonstrated with infrared imaging.

**Let us help you invent the future of building materials protection.**
Contact Us

Dow is collaborating with industry professionals around the world to improve the energy efficiency of buildings, offer longlasting solutions and provide excellent technical support. Taking a holistic approach, Dow brings together expertise from across the company to help customers find answers to a wide range of high performance building challenges.

Dow has sales offices, manufacturing sites, and science and technology laboratories around the globe.

For the most up-to-date information about DOWSIL™ construction chemical solutions for building materials protection, visit consumer.dow.com/buildingmaterialsprotection.
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