BioDefense SCT Self-Cleaning ALL Purpose Cleaner

PERFORMANCE

Hydrophilic (Self Cleaning) Modification of Ceramic Tile: Soap Scum and Hard Water Deposit Resistant Barrier

The photographs to the right show the remarkable protection afforded surfaces when cleaned/treated with BioDefense SCT. The right half of the tile was cleaned/treated with BioDefense SCT and then rinsed under cold water (Fig. 2). The tile was then allowed to dry. Once dry, the tile was soiled repeatedly with a standard soap scum and hard water solution then rinsed with cold water (Fig. 3). As the photo below demonstrates, the treated half on the right has resisted deposits and remains clean after repeated exposure to hard water and soap scum (Fig 3).

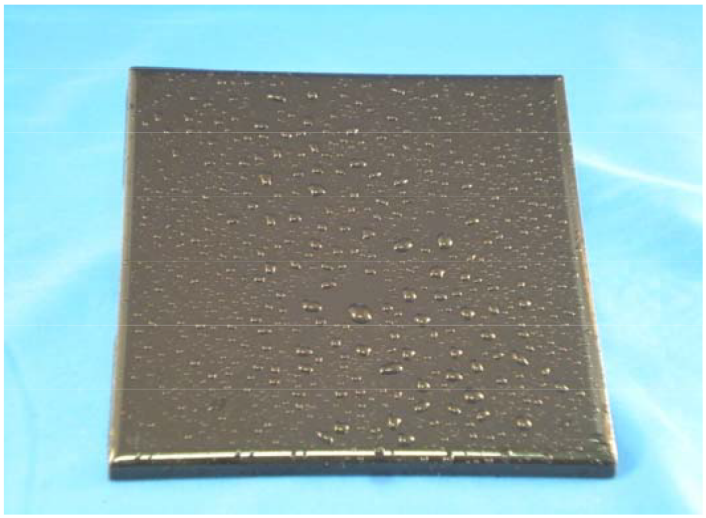

Figure 1: Untreated ceramic tile exhibits hydrophobic bonding in the nature.

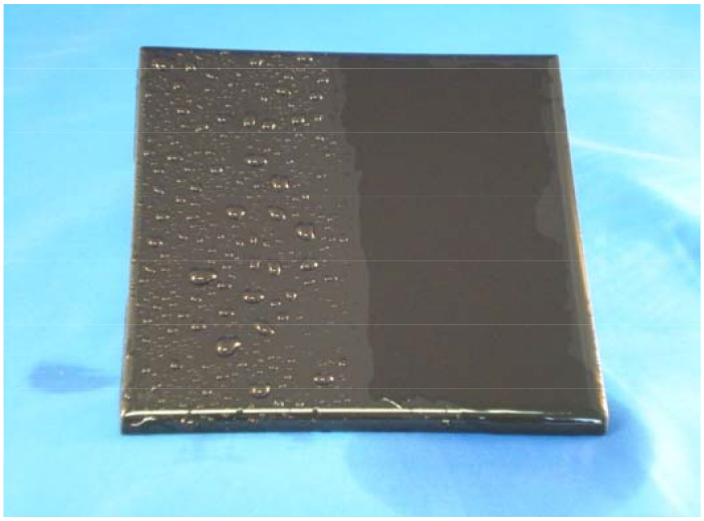

Figure 2: Right half of tile cleaned/treated with BioDefense SCT exhibits hydrophilic barrier properties.

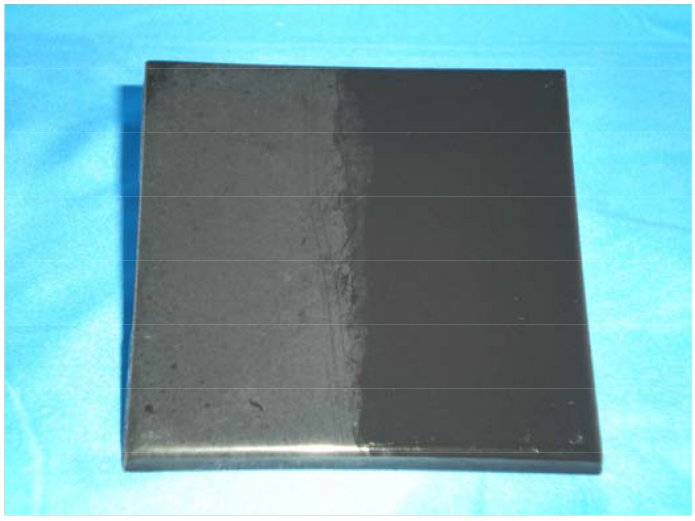

Figure 3: After 10 soiling/rinsing cycles and time to dry, the right side of the tile is still hydrophilic and is a barrier to soap scum buildup and hard water spotting. The untreated left side allows soap scum buildup and hard water spotting.

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Hydrophilic (Water sheeting) Modification of Glass: Soap Scum and Hard Water Deposit Resistant Barrier

The photographs to the right show the remarkable protection afforded surfaces when cleaned/treated with BioDefense SCT. A glass panel was soiled uniformly with a standard soap scum and hard water solution (Fig. 1). The underside of the glass panel is painted black so that the soiling is easier to see. The right half of the panel was cleaned/treated with BioDefense SCT and then rinsed under cold water (Fig. 2). The tile was then allowed to dry. Once dry, the tile was soiled repeatedly with a standard soap scum and hard water solution then rinsed with cold water (Fig. 3). As the photo below demonstrates, the treated half on the right has resisted deposits and remains clean after repeated exposure to hard water and soap scum; the hydrophilic barrier is durable after repeated soiling and rinsing (Fig 3).

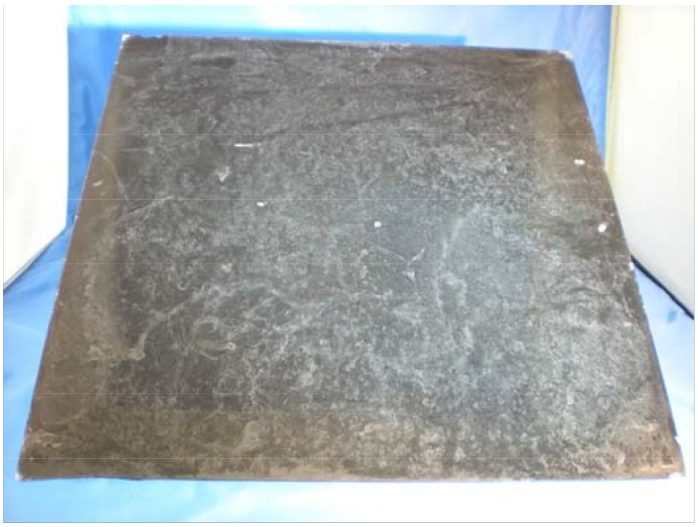

Figure 1: A glass panel is painted black on its underside. The unpainted side is soiled uniformly with a standard soap scum and hard water solution.

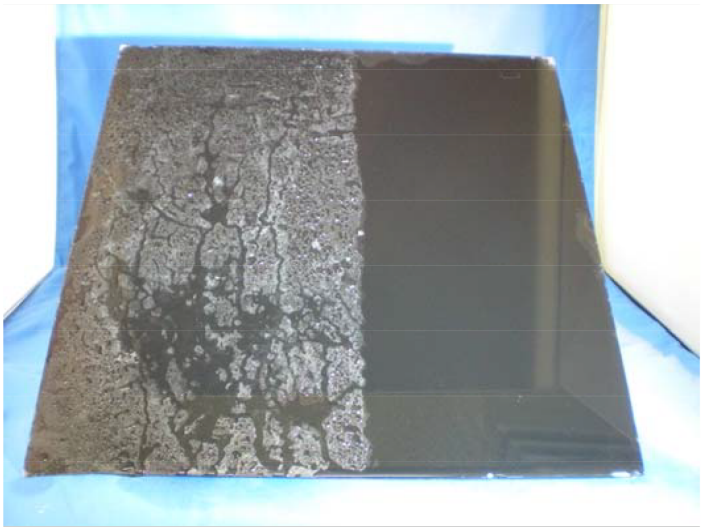

Figure 2: The right half of the glass panel is cleaned/treated with BioDefense SCT exhibits complete hydrophilic barrier properties when rinsed.

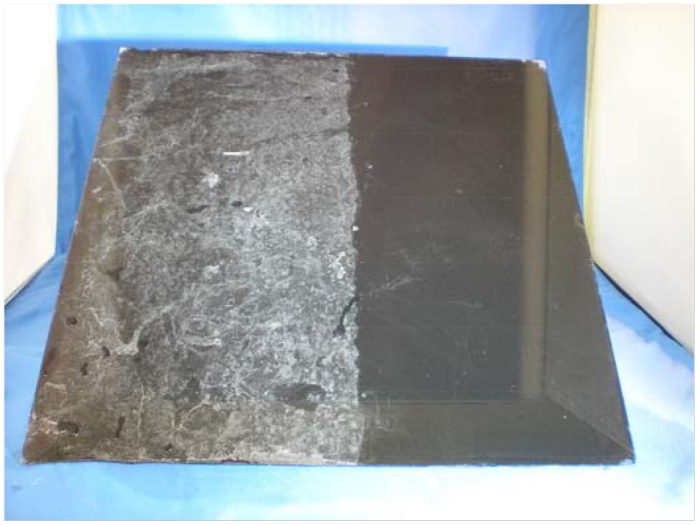

Figure 3: After 10 soiling/rinsing cycles and time to dry, the right half of the glass panel is still hydrophilic and resists soap scum buildup and hard water spotting. The untreated left side allows soap scum buildup and water to spot.

BioDefense SCT Self-Cleaning All Purpose Cleaner

Hydrophillic (Oil Sheeting) Modification of Painted Panel/Clear Coat: Dirty Motor Oil Release

These photographs illustrate the soil release properties imparted to surfaces when cleaned/treated with BioDefense SCT. The right half of the panel was cleaned/treated with BioDefense SCT then rinsed with cold water (Fig. 2). Blue dye was added to the water to make it easier to see. The tile was wiped dry then soiled with dirty motor oil (Fig. 3). The soiled panel was held under low pressure, cold tap water for 30-seconds. The stream of cold tap water was positioned at the top of the panel so that the water cascaded uniformly over the panel. As the photos demonstrates, the cleaned/treated half on the right readily releases the dirty motoroil allowing it to be rinsed away with tap water (Fig. 4).

Figure 1: Untreated panel exhibits hydrophobic bonding

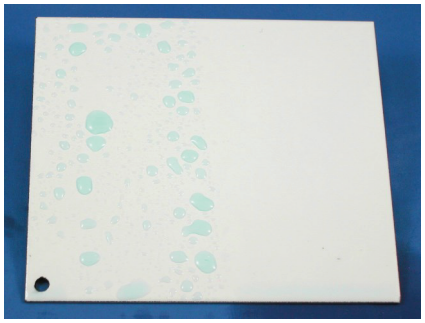

Figure 2: Right half of panel treated with BioDefense SCT exhibits complete hydrophilization.

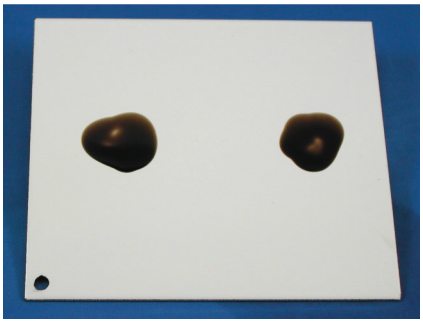

Figure 3: Dirty motor oil is applied to dried panel. Untreated (left) and cleaned/treated (right).

Figure 4: After rinsing, the hydrophilic right side of the panel readily releases soil.