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# Staining of Sealants

## FACTSHEET



## GLOBAL LEADER IN ADHESIVE TECHNOLOGIES

Bostik is one of the largest adhesive and sealant companies. Worldwide, we employ some 6,000 people in 50 countries across five continents. Our customers come from diverse markets, most notably the industrial manufacturing, construction and consumer sectors.

## SMART INNOVATIONS

Our smart identity is underpinned by innovation. We pursue innovation vigorously, applying the latest technological advances to developing ‘smart’ adhesives. Our archives are laden with examples of Bostik technologies that have disrupted markets - from potato starch-based wallpaper paste to elastic attachment adhesive for diapers.

Today, our commitment to innovation is as strong as ever. We innovate with our customers through a global R&D network, comprising three international Smart Technology Centres and 8 regional centres. And we differentiate our business through this investment.



## Staining of Sealants

### GENERAL INFORMATION

Natural stone is used in kitchens, floors, walls, bathrooms, dining rooms, around swimming pools, building foyers, public areas and facades. Since ancient times, stone has been popular for building and decorative purposes. It has been valued for its strength and durable properties. It can be cut, cleft, or sculpted to shape as required, and the variety of natural stone types, textures, and colours provide an exceptionally versatile range of building materials. The porosity and makeup of most stone does, however, leave it prone to certain types of damage if unsealed.

Staining is the most common form of damage. It is the result of oils or other liquids penetrating deeply into the capillary channels and depositing material that is effectively impossible to remove without destroying the stone. When working with these sensitive and expansive building and construction materials, we want to be sure that you are not the responsible person for negatively impacting the visual aspect by using the incorrect sealants and adhesives.

Staining or edge soiling caused by sealants and adhesives doesn't only occur on natural stone, it can also happen on porous artificial stone. With natural stone, we commonly refer to amongst others to Granite, Marble, Limestone, Travertine, Slate, Quartzite, Sandstone and Onyx. When we mention artificial stone, we refer to manmade type of stone, such as concrete and brick.

### WHAT IS STAINING

Staining can occur when applying a sealant or adhesive on a natural and/or artificial stone surface. The migration of oils or other liquids create a darker “wet-looking” stain on both sides of natural stone where the sealant is applied. This effect can be seen after the curing phase of the sealant or adhesive. This can occur after several weeks, months, even years. This staining effect on natural and artificial stone does have a negative visual aspect. Technically, both the substrate as well as the sealant or adhesive aren't effected negatively in performance and durability.



## WHAT CAUSES STAINING

Staining or edge soiling is most often caused by non-reacted plasticizers, solvents or fluids in the sealant and adhesive that can leach out of the sealant after it cures. Every sealant and adhesive formulation, whether inorganic or organic, is different. Any standard sealant or adhesive can cause or initiate staining. Therefore, if you need to apply a sealant or adhesive to these so called sensitive building and construction materials, we highly recommend you to select products that doesn't contain plasticizers and aren't diluted.

## ASTM C-1248

ASTM International, formerly known as American Society for Testing and Materials, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services. Bostik is using for sealants and adhesives relevant ASTM standards, amongst others the ASTM C-1248. The ASTM C-1248 is a standard test method for 'Staining of Porous Substrate by Joint Sealant. The ASTM C-1248 is a test method that covers an accelerated laboratory procedure to determine if a joint sealant has a probability of staining a porous substrate.

The ASTM C-1248 will make out of 24 substrates, 12 test specimens (25x25x75mm), between which the sealant or adhesive is applied in the dimension of 49x25x13mm. The test specimens are compressed and clamped out the joint movement capability we've mentioned in our technical datasheets. 4 Test specimens are stored at standard conditions, while under compression for up to 28 days. 4 Test specimens are exposed in an oven (@70 ± 2°C), while under compression for up to 28 days. The last 4 test specimen will be exposed under compression for up to 28 days in an ultraviolet (UV) fluorescent test chamber. The full test procedure can be read in the ASTM C-1248 document and can be purchased at <https://www.astm.org/>.

The effects of the test are evaluated by visual inspection for changes in surface appearance and average measurements of any stain depth and stain width. Please be aware that the ASTM C-1248 is an accelerated test, it does not necessarily predict that the tested sealants will not stain or discolour porous substrates over longer periods of time

## NON-STAINING PRODUCTS

- BOSTIK H985 SEAL'N'FLEX WEATHER SHIELD
- BOSTIK H980 HIGH TACK PREMIUM
- BOSTIK S960 SILICONE NON-STAINING
- BOSTIK P795 SEAL'N'FLEX PREMIUM
- BOSTIK H750 SEAL'N'BOND PREMIUM
- BOSTIK H505 SEAL'N'BOND CRYSTAL

## LIABILITY

All supplied information is the result of our tests and experience and is of general nature. However they do not imply any liability. It is the responsibility of the user to verify by his own tests if the product is suitable for the application.