



Klen Sealing Guide for Masonry (concrete) Pavers And Retaining Walls

Why Should I Seal?

Masonry products are by their nature both porous and have a reactive surface. The porosity varies from manufacturer to manufacturer and even between products made by the same company. This means any liquid placed on the surface will travel into the paver with the less porous (more dense) pavers taking a little more time than the more porous paver. Because the pavers are very porous this creates a large surface area within the paver that reacts with and holds onto liquids that enter the paver eg. red wine, cooking oil, sunscreen lotion etc and other contaminants on the surface such as grease, bird and bat faeces, soil contamination etc. Once in or on the surface of the paver these stains are very difficult to remove.

Sealing is therefore important to protect your paver by putting a protective coating on or in the surface of the masonry material to insulate it from permanent staining. Sealing will not stop your pavers from getting dirty but will make them easier to clean and help prevent permanent marking of the paver. Sealing is an investment to protect your substantial capital outlay in your new and attractive paved area.

Guide to Selecting the Correct Sealer

There are two types of sealers:–

Penetrating Sealers protect the paver from inside out. On application they move through the surface and coat the paver immediately below the surface with a protective coating. They generally have the characteristic of not changing the surface colour of the paver or the surface texture. The paver will look the same after sealing as it does before sealing. Penetrating sealers also allow the paver to breathe so water vapour can escape from within the paver.

Topical Sealers protect the paver at the surface by leaving a coating across the top of the paver. They generally have the characteristics of darkening the pavers appearance often referred to as giving the paver a “wet look”. This effect is more pronounced on darker coloured pavers. As topical sealers cover the paver surface they generally do not allow the paver to breathe and care should be used if the area has a frequent source of moisture coming to the surface from below the paver. Moisture trapped under the sealer coating will lead to a white or milky appearance on the paver surface.

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Topical sealers, depending on the sealer that is chosen, the porosity of the paver and the surface texture of the paver, can result in a slippery surface when wet. Check with your Klen supplier for advice on this matter.

Klen has a wide range of both penetrating and topical sealers developed and manufactured in Australia for Australian conditions. These are described in detail in the coloured brochure **Klen Sealing and Cleaning Guide**. Discuss your requirements with the staff from your local Klen supplier so they can guide you in making the correct decision.

Sealing Around Swimming Pools

As a general guide we recommend only penetrating sealers for around swimming pools as there is a strong possibility of water entering the zone below the pavers through cracks in mortar joints and cracks from where the top of the pool joins the coping tiles. With a penetrating sealer this water can escape as vapour through the surface of the paver and not be trapped below a topical or coating sealer which would then go white or milky.

As penetrating sealers generally do not change the surface characteristics of the paver then the slip resistance of the paver will not change compared to a topical sealer which may make the paver more slippery when wet.

It is important when sealing the coping tiles to include the bullnose or square face that overhangs the pool and the surface area under the bullnose of the coping tile that returns back to the side of the pool.

Preparation of Surface before Sealing

Pavers should not be sealed for 14 days after laying and grouting to allow all the inherent moisture in the paver from the time of manufacture to escape. The time the pavers sit on a pallet before laying should not be included.

Pavers should be dry at the time of sealing. You should allow 24 hours for incidental moisture from rain or cleaning to dry before sealing.

The surface should be clean as any contamination will be locked in by the sealing process. See the Klen Masonry Paver Cleaning Guide on how to remove various marks and stains.

Ensure the surface temperature does not exceed 30°C at the time of sealing or during the sealing process as this will cause the solvent to evaporate before the sealer has a chance to properly set. Keep in mind that the surface temperature of dark coloured pavers may easily exceed 30°C through heat absorption even if the air temperature is much lower.

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Do not apply sealer if it is likely to rain or experience heavy dew within 6 to 8 hours after sealing.

Pre-sealing to Protect Pavers During Construction and Grouting

To protect the surface of the pavers during the laying phase and from grout smear during the grouting operation we recommend the pavers be pre-sealed with Klen **Clear Seal**. This is a simple one coat of a water based penetrating sealer that is easy to apply and will assist in the cleaning of the paver before sealing.

If the final sealer is solvent based, it can be applied directly over the Clear Seal; if it is water based then the surface must be cleaned with HD Cleaner before sealing.

Sealing Technique

We recommend two coats of sealer except for Clear Seal which only has one coat.

A guide to the coverage of the sealer is 1 litre per 5 sq m of paver surface and this will be sufficient to allow for two coats. Allow more sealer for more open porous surfaces such as poured concrete and the more porous pavers such as the Adbri Sante Fe and the Boral Promenade. With these pavers and similar pavers from other manufacturers and poured concrete surfaces including exposed aggregate allow 1 litre per 3 sq m of surface to be sealed.

Sealer can be applied with a brush, lamb's wool applicator or approved solvent sprayer. Do not use a roller as this may leave marks and bubbles on the sealed surface.

Apply the sealer in one direction.

Allow adequate time between coats so the first coat is thoroughly dry before applying the second coat. Drying time will depend on the sealer being used, weather conditions and porosity of the paver.

When applying the second coat apply at right angles to the direction of the first coat to ensure that no area is missed twice.

It is OK to apply one coat one day and a second coat the following day provided the surface remains free of marks and contaminants.

Always read the Technical Bulletin for the particular sealer you are using. These will incorporate the most recent information available compared to the label on the container and will contain more information given the limited size of the label.

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Sealing Masonry Block Retaining Walls

These are often segmented block walls built by stacking one row on top of another. They are often split faced (very rough surface) and attract moisture leading to mould growth which darkens the appearance of the wall and detracts from its appearance compared to when it was new. The fresh new look can be maintained by sealing with Klen **Clear Seal**. As this is a water based sealer it can be applied in a plastic pump up sprayer and only requires one coat to provide four to five years protection against mould growth. Allow 1 litre for about 7 sq m.

Why Does the Water Stop Beading on the Surface After Sealing?

Beading is a physical phenomenon that occurs immediately after sealing. Even with a penetrating sealer it must pass through the surface of the paver before it can go into the paver and in doing so leaves a cover of sealer across the entire surface. With a totally water repellent surface (hydrophobic) the surface energy of the water is at lower state than the paver surface so water will cling to itself forming balls or beads in preference to attaching to the surface.

After a period of time with wear and traffic across the surface, the fine surface points of the concrete will lose their micron thin cover of sealer and allow the water to attach itself to these points. This will allow the water to spread across the paver in isolated pools but it will only sit on top of the paver and not penetrate the paver which is still protected by the sealer. The period of time for the beading to stop is quite variable. However the failure of the water to form beads does not mean the sealer has failed.

Sealing Old Sealed Surfaces

First check that it is the same sealer as was used previously.

If it is a different sealer or you are uncertain you must do a test first to ensure the sealer is compatible.

Clean the old sealed surface with Klen HD Cleaner first to remove any surface contaminant in particular grease and grime. For more specific stains see the Klen Masonry Paver Cleaning Guide on the web site.

Ensure the surface is intact and there is no loose or degraded sealer on the surface.

If the old sealer has become white or milky from moisture entrapment then you should seek technical advice from your supplier or the Klen Technical Assistance as to what options you may have before sealing.

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Carefully work the new sealer into the surface of the old sealer until the two become one and there is an even colour across the surface.

Cleaning up After Sealing

See the relevant Technical Bulletin for detail.

Access to the Surface After Sealing

Ensure the surface is totally dry before walking on the surface. We recommend you allow at least 4 hours after the last coat before you walk on the surface subject to weather conditions and 24 hours before placing furniture back on the surface and using the surface as you would normally do so.

When Should I Reseal?

The answer is subject to many criteria such as the type of sealer used, how the surface is cleaned and maintained, how much foot and vehicular traffic occurs, whether the surface is outside or under cover etc. Each of our sealers has a general recommendation for its expected life.

As a general guide resealing should be undertaken when the sealer no longer stops water from entering into the surface of the masonry paver.

Personal Safety with Sealers

Please observe the safety instructions on the label and in the Technical Bulletin.

Where Can You Find Further Technical Assistance

Check with the supplier of your sealer for advice, or call the Klen Technical Assistance number 1800 999 196.

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