



Sealers for Concrete Flatwork

Exposed concrete surfaces can benefit significantly from the application of concrete sealers to repel the infiltration of water, chlorides and provides short term protection from chemical spills and stains.

In general, there are two types of sealers available for use:

- **Film Forming Sealers** – Sealers that bond to the top surface of the concrete provide a barrier to the ingress of liquids.
- **Penetrating Sealers** – Sealers that are absorbed into the concrete surface and block the pore structure of the concrete preventing further water penetration.



Photo courtesy of Euclid Admixture Canada

- Intended use of the surface and traffic type
- Ease of reapplication of the sealer
- Health and Safety considerations (water based versus solvent based)

General Film Forming Sealers (Surface) Considerations:

- Ensure that the previous coat of sealer has properly cured. Dry does not mean cured (follow the manufacturer's recommendations)
- Do not apply to surfaces that are defective or weakened
- Do not apply surface sealer until moisture of the concrete is such that alkali and salts will not be trapped within the concrete (typically 14 – 28 days)
- Allow surface to thoroughly dry after cleaning
- Ensure that concrete is not sweating prior to application of the surface sealer (rain, fog, high humidity, etc.)
- Do not over apply sealers. Take precautions so puddling in joints or textured areas are minimized



Photo courtesy of Euclid Admixture Canada

Selection of the proper concrete sealer is based upon understanding the required concrete surface finish and the exposure conditions and traffic type (vehicles, pedestrian, etc.) that the sealer will be exposed to. It is strongly recommended that you discuss your application with the sealer manufacturer prior to the start of the project. The factors that should be considered include:

- Type of surface finish
- Whether the surface is external or internal



Photo courtesy of Euclid Admixture Canada



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General Penetrating Sealer (Silanes/Siloxanes) Considerations

- Can be applied to newly cured, or old concrete (typically 28 days old). If there are any concerns you should perform a penetration test as per the manufacturer's recommendations
- Remove all foreign substances that could prevent absorption of sealer prior to application
- When applying 2 coats let the concrete surface absorb the first solution and follow immediately with a second application before the surface dries
- Contact manufacturer if surface is to be treated following a penetrating sealer

Curing/Curing & Sealing General Considerations

- Materials must meet ASTM C-309 or ASTM C-1315 specification requirements
- Curing/Curing & Sealing compounds both form a membrane or film on the concrete surface to retain moisture. Cure and seals offer added benefits of long-term protection and improved appearance
- Apply liquid membrane curing or curing and sealing compound as soon as surface water has evaporated and final finishing operations have been completed
- Do not over apply. This can lead to blistering and peeling
- Do not apply cure or cure and seal if the dew point is such that sweating is occurring on the concrete's surface

References:

- 1 Penetrating Sealers for Decorative Concrete, Concrete Construction, August 2003
- 2 Sealers for Exposed Concrete Flatwork, Cement & Concrete Association of Australia, November 2003
- 3 Acrylic Sealers for Exterior Flatwork, Concrete Construction, January 2001

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