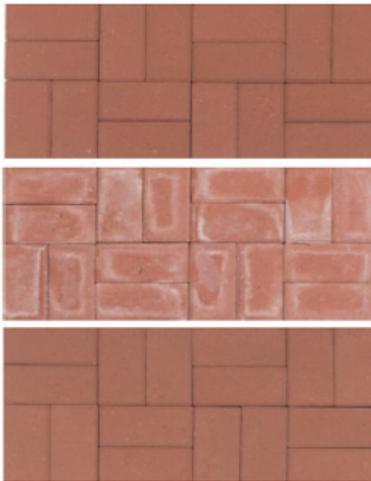


Efflorescence on Concrete – A Passing Nuisance



Unweathered

Efflorescences

Weathered for 1 year

Checklist

1. Overall, understand the surface you are coating. There are a lot of potential pitfalls
2. Avoid concrete under 28 days old or longer for 150mm slabs
3. All exterior concrete will have efflorescence

Should adhesion problems arise and quality checks reveal the paint was supplied in specification, Damar accepts no liability.

Other Efflorescence Inputs

Development of efflorescence also depends on:

1. Surface Density

(hard and dense surfaces bleed less)

- Finishing process
Interior floors burnished, exterior can't be slippery so rough texture
- Concrete strength
Interiors can be 30-40 MPa

2. Water Ingress/Egress

- Exterior concrete goes through wet and dry cycles

Other Barriers to Adhesion

You must find out what has been put on the surface. Ideally you want only water but there may be:

1. Curing Compounds

- Can be wax or other coating - Some designed to degrade, others not.

2. Densifiers

- Sodium or lithium silicates are very common on warehouse floors. Densify and may cause adhesion issues – you need to test

3. Sealers

- Concrete manufacturers may have used: water based or solvent based acrylics, epoxies, urethanes, single pot, two pot etc.

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Solutions

Remove it!

- 1. Acid** Dissolves CaCO_3 , Can open up the surface, takes two to five minutes.
 - Refer to Clark Products "Acid Etching Concrete with Clarks Creteaway HS".

Etching concrete or tiles is a chemical treatment to the top layer of the surface. This is usually done in preparation for a coating or as an anti-slip treatment to concrete or tiles. The process involves applying an acid solution to the surface for varying time intervals to achieve different profiles for further treatments. Etching is usually described as "light", "medium" or "heavy" and describes how much of the surface is being removed to achieve the final result.

- 2. Blasting**

Shot blasting equipment propels small steel balls downward at high velocity into the concrete floor effectively chipping the concrete surface. The balls are recycled into the equipment and used continuously throughout the process. Abrasive blasting uses compressed air to propel abrasives into the concrete preparing the surface to various profiles usually in preparation for coating applications.

- 3. Grind**

Concrete grinding is a mechanical method of removing concrete, glues, vinyl and other contamination with abrasives such as carbide, diamond and steel installed on discs at the base of the machine which rotate horizontally. Diamond grinding provides a clean, level and smooth surface suitable for multiple floor coating systems, usually carried out with full vacuum extraction that will significantly reduce dust produced by the grinding process.

- 4. Water blast**

Water blasting is best used for removing loose or flaking paint and surface contaminants from hard external surfaces such as concrete or brick and will provide a mechanical key for paint adhesion.

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