

Cleaning concrete

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As with all building materials, precast concrete will gather dirt, especially in an urban or industrial environment. There is also the possibility that in time, natural algae or moss may occur if the location is damp or poorly ventilated.

Cleaning of precast concrete is covered by BS8221-1: 2000 "Code of practice for cleaning and surface repair of buildings – Part 1: Cleaning of natural stones, brick, terracotta and concrete." It will be seen from the title that this covers not only concrete, but also the main facing materials applied to concrete.

Further independent guidance on cleaning may be found in the following Building Research Establishment publications:

Digest DG/449 – Cleaning exterior masonry
 Part 1 – developing and maintaining a strategy
 Part 2 – methods and materials

BRE publications are available from
 IHS BRE Press, Willoughby Road
 Bracknell, RG12 8FB (01344 328038)

Good repair guide GR/27 –
 Part 1 – cleaning methods
 Part 2 – removing dirt and stains

Cleaning should only be carried out by an experienced and specialised contractor since the misuse of some cleaning materials may adversely affect the surface finish. This is particularly the case with acid based materials.

If algae or moss occurs, this may be treated by the use of a suitable biocide solution. As with all cleaning materials, biocides should only be used in accordance with the supplier's instructions. There are specialist contractors who carry out this work.

Treatment of specific deposits (from BS8221-1):

Cement mortar splashes – dilute hydrochloric acid (except on limestone and Portland stone, for which an abrasive method should be used). Thick and fresh cement splashes should be removed by brushing or scraping with wooden scrapers or if hardened a chisel.

Lime bloom – this is usually transient and should disappear on its own in time. If removal is essential, wash with a 5% solution of hydrochloric acid or proprietary concrete cleaner.

Lime weeping – hard encrustations of calcium carbonate (lime weeping) should be removed with dilute hydrochloric acid. Thick deposits should be softened with a steam gun and brushed or scraped.

Efflorescence – (a loose water-soluble deposit of salt crystals) should be removed as soon as is practicable to avoid re-absorption. They may be allowed to weather away instead of using a chemical treatment that may produce immediate visual effects but may also leave a different suite of damaging salts if not completely removed.

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Bird fouling – wet first to avoid dust, then remove by scraping or water rinsing.

Paint and graffiti – many paints and some graffiti can be removed with solvent paint removers to BS3761. Oil based paints should be removed with an alkaline cleaner. Flame burners and hot air guns should not be used. Further damage may be minimised by an anti graffiti coating (see references elsewhere)

Coal tar, pitch and bitumen – should be softened with steam or hot water and removed by careful scraping, taking care not to spread it. After scraping use a suitable solvent, rinse, apply a degreasant, rinse and neutralise. Deposits on smooth surfaces should be embrittled by cooling with ice or solid carbon dioxide.

**NOTE: Any treatment may alter smooth surfaces sufficiently to cause a blemish, or leave 'ghost' staining
It may be necessary to carry out a trial on a non-visible area.**