

TB-001 3C — Cleaning Masonry Containing DRY-BLOCK®

Technical Bulletin

This technical bulletin covers recommended procedures for removing dust, dirt, mortar splatter, mud, cement splashes, efflorescence and other stains from masonry which contains DRY-BLOCK®Integral Water-Repellents. The risk of damaging water-repellent masonry exists whenever aggressive cleaning procedures are used. It is important to utilize good construction practices as the first step in producing a clean building. A little extra time spent as the building is constructed will reduce final cleaning needs, associated costs, and changes to the masonry's appearance and performance.

Good Construction Practices

- Avoid excessive condensation in stretch wrapped concrete masonry units (CMU) cubes which can lead to efflorescence. Minimize the time that CMU are stored in stretch wrapped plastic. If condensation occurs, remove the wrap and protect CMU with a tarp.
- Cover the top course of the wall to keep water from entering the cores or cavity.
- Scaffold planks should be set back from the wall to avoid mortar splashes on the wall.
- Remove mortar droppings and stains before they harden by giving daily attention to brushing down the wall with a soft brush. After mortar has hardened, a stiff brush will be necessary.
- Remove grout spills or leaks immediately by washing or brushing.
- Place sand on the floor next to and against the wall to keep mortar splashes from sticking to the wall surface.
- On taller walls, place thin plastic sheeting to protect completed work from mortar droppings and splashes.

Materials

For removal of most new construction stains from concrete masonry containing DRY-BLOCK®Integral Water-Repellent Admixtures, commercially available detergent-type masonry cleaner is recommended. For unusual stains that present special cleaning difficulties, contact your local cleaner supplier for specific recommendations.

Any cleaning method more severe than this recommended procedure, such as applying acid cleaners at high pressure, can result in damage to the masonry and can negatively affect the water-repellent properties of DRY-BLOCK®treated masonry.

Procedure

Detergent cleaners contain acids and, as such, clean by dissolving the masonry surface. The key to the process is to find the etching conditions that are severe enough to dissolve or loosen the undesirable material on the surface, but not so severe that the masonry surface is noticeably altered. For this reason, it is recommended to use the least severe procedure possible and to conduct a pre-cleaning trial wash on a sample wall panel representative of the materials and workmanship to be incorporated into the project. This procedure should be approved by the architect and block manufacturer prior to the start of construction.

Cleaning Process

1. Scrape off excess mortar deposits with sections of CMU, wooden scrapers or other non-metallic scraping devices.
2. Thoroughly pre-wet the surfaces to be cleaned with clean water using low pressure spray (maximum pressure 30–50 psi).
3. Using a densely packed, soft bristled masonry washing brush or low pressure spray (maximum pressure 30–50 psi), apply the diluted cleaning solution liberally. Brushing the stains either during or directly after the application of the diluted cleaning solution is recommended as the effectiveness of the mechanical action helps remove the stains and allows the use of the most dilute cleaning solution possible. Dilution rates should be worked out in the “PROCEDURE” process above. Allow the solution to remain on the wall for 1–3 minutes. **DO NOT ALLOW THE SOLUTION TO DRY ON THE MASONRY.**
4. Scrape off any mortar deposits (as in step 1) and re-apply the cleaning solution if necessary. **DO NOT ALLOW THE SOLUTION TO DRY ON THE MASONRY.** It is important that ALL of the masonry be cleaned in the EXACT same manner (including dilution rate, brushing/scraping method, dwell time, re-application, etc.) to maintain a uniform appearance.
5. Rinse treated surfaces thoroughly with fresh water using low pressure (maximum pressure 30–50 psi). Although discouraged, if high pressure (400–600 psi) rinsing is necessary after the initial low pressure rinse, minimize the amount of water forced into the wall by (a) using a wide flange tip (never use a pointed tip), (b) keeping the tip a minimum of 12 in. from the masonry surface, and (c) directing the spray at a 45° angle into the wall (never spray directly perpendicular at the wall). Make sure there are several days of good drying conditions following the cleaning. Failure to rinse at low pressure first will result in acid being forced deep into the masonry damaging its water-repellent properties.
6. Consult the cleaner manufacturer’s instructions for additional information and safety precautions.

Note: Rinsing at high pressure will force water deep into the masonry substrate increasing the potential for future efflorescence. If there is acid on the masonry during a high pressure wash, the applied force will drive the acid into the masonry exposing it to acid etching on the inside. This can result in an increase in the through wall porosity and water absorption of the masonry.

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