

# CONCRETE PRODUCTS GROUP “BEST PRACTICES” SPECBRIK® and ARCHITECTURAL COLOR CUSTOMIZED MASONRY UNITS (CCMU)

Natural Salts in Color Customized Masonry Units (CCMU) will cause efflorescence when excessive moisture is introduced to the units.

## Best Practices to Restrict Efflorescence

### A. At Preconstruction

1. CPG member companies use the highest quality most economical and consistent materials available for manufacturing of CCMU's.
2. Our unique curing process provides consistent moisture content.
3. Our mix design is designed to consistently maximize quality in color, water repellency and strength.
4. Whenever possible CPG uses company owned vehicles to ensure timely and professional delivery.
5. All CPG's CMUs are wrapped to minimize external water penetration.

### B. At Jobsite Storage

1. CCMU's should be laid in wall ASAP
  - CCMUs laid 1 month after date of manufacturing risk less efflorescence than CCMUs laid 3 months after the date of manufacturing.
2. Keep CCMUs COVERED AT ALL TIMES to prevent rain penetration that will cause efflorescence.
3. CPG recommends the erection of a sample panel for color verification of units and mortar as well as good workmanship practices.

## CONSTRUCTION -

### C. At Blocklaying

1. Keep WALLS COVERED AT END OF EACH DAY AND/OR DURING RAIN to prevent efflorescence and color variation caused by moisture of the CCMU's.
2. A water repellent mortar admixture is chemically matched with the water repellent block admixture and should be used in mortar to ensure the highest level of water repellency of CCMU masonry wall.
3. CPG Members use water repellent in the manufacturing of all CCMUs. Use proper flashing to prevent moisture penetration.
4. Flashing must be located properly – wherever moisture vapor or water can potentially move into CCMU's.
5. EIFS must be flashed.
6. Weep holes must be located 16" on center.
7. All head joints must be full with no “bug holes” –
  - This will restrict water penetration into CCMU's.
8. Use only concave or (V) configuration of mortar jointing DO NOT USE A RAKE JOINT – IT COLLECTS MOISTURE.
  - Tooling of soft mortar lightens the color and conversely mortar that is too hard darkens the color, per Aberdeen's Magazine of Masonry Construction. It is generally recommended that joints be tooled when mortar reaches “thumbprint hardness”. If a joint is tooled too soon, shrinkage cracks at the mortar/block interface are likely to occur and the color becomes very light. If the joint is tooled too late the color becomes very dark and the mortar will not be plastic enough to seal properly against the masonry units.
9. The Concrete Products Group recommends grouting of the CCMU should be of a low slump. Excessive water in the concrete can “bleed thru” the CCMU and cause efflorescence. If a higher slump, more flowable mix is required, CPG recommends the use of a super plasticizer admixture.
10. Use DRY saw blade to cut special sizes of CCMU's. **DO NOT USE WATER**

CPG can supply NCMA Teknotes – go to our website [www.specbrik.com](http://www.specbrik.com)

## POST CONSTRUCTION – AFTER BLOCKLAYING COMPLETION

### D. CLEANING:

CCMU'S must be cleaned properly including mortar droppings, mortar splatters and efflorescence. Improper cleaning materials and/or methods will also harm water repellency.

1. **DO NOT USE WATER PRESSURE OVER 50 PSI** — using high pressure will most likely cause efflorescence, streaking and color variation. **USE OF PRESSURE HIGHER THAN 50 PSI RELIEVES CONCRETE PRODUCTS GROUP OF ANY LIABILITY.**
2. CPG recommends that you use a Masonry Cleaner to clean CCMU's. Your CPG Representative can help supply you with a cleaning agent and it can ship with your CCMU's to jobsite.
3. Consistent application of water and cleaner on the wall system will ensure consistent color after completion of cleaning – inconsistent application will cause color variation.

### E. EFFLORESCENCE STAINING

1. Keep all sprinklers from causing water to contact CCMU's.
2. Wet mud or bark will cause efflorescence staining of CCMU – CPG recommends hay or straw placed at foundation to prevent.
3. Staining below window sills, metal brackets, and vents that attach to the walls, etc., can be avoided by having projections carried out at least one inch from the face of the wall with a drip notch or groove on the underside in order to keep water from running back under sill and down the face of the wall and onto metal devices or other stain producing items attached to wall. These items should be insulated from the visible portion of the wall by a non-staining durable gasket material having a drip to divert potential staining material away from the wall.

### F. COLOR VARIATION

1. CPG uses the most economical high-quality consistent aggregates available for manufacturing. These are all natural mined materials and are subject to variation.
  - Solid units – due to moisture – may appear darker than cored units.
  - Large segments of smooth block units will accent color and texture variation of the natural materials more than splitface units.
  - Special care should be taken to lay CCMU in the same direction / orientation to maintain proper shade and texture appearance.
  - Due to changes in mined material, color variation should be expected in CCMU's produced at different times. Ex: additions, change order, etc.
  - CPG does not manufacture each order at the same time but will generally produce the order according to size over a 2 weeks manufacturing cycle.

### G. WATER REPELLENCY

Water Repellency should not be confused with water proofing. CPG CCMU's have integral water repellent. Particularly in the Southeast, West and Southwest facing walls are subject to extra moisture from natural flows of the JET Stream. Therefore, CPG recommends that all exterior walls be treated with a sealer to provide the highest level of water repellency.

### H. SEALER

The use of any sealer on block surface should be carefully considered. If the sealer is applied to a wall that still contains the basic ingredients for efflorescence (moisture) the resulting problems could be severe. As the salt solution attempts to migrate toward the surface most of the salts become trapped in the concrete pores just inside the sealer. The result is an interior crystalline buildup called subflorescence which can exert considerable pressure and spall the unit face. If required the following should be considered:

- Block sealer shall not be applied until the wall has dried out a minimum of 72 hours without rain and there is no visible sign of efflorescence on the wall.
  - Make sure to apply materials in accordance with manufactures printed instructions.  
*Commentary: Sealers can discolor CCMUs.*
1. Apply a second coat of sealer of masonry surfaces that are porous.
  2. All windows must be covered and all cars removed before spraying as glass and finished metal can be damaged. Sealers are extremely hard if not impossible to remove from glass.

**CONTACT YOUR CONCRETE PRODUCT GROUP REPRESENTATIVE FOR A LIST OF RECOMMENDED SEALERS.**

