BLOCK USA

Architectural Color Customized Masonry Unit (CCMU) Best Practices

PRE CONSTRUCTION

A. BLOCK USA

Block USA uses the highest quality most economical and consistent materials available for manufacturing of CCMU's.

1. Our unique 4 day curing process provides consistent moisture content.
2. Our mix design is designed to consistently maximize quality in color, water repellency and strength.
3. All pallets of Block USA CCMU's are wrapped to minimize external water penetration.

B. JOBSITE STORAGE

1. CCMU's should be laid in wall ASAP
   - CCMU's laid 1 month after date of manufacturing risk less efflorescence than CCMU's laid 3 months after the date of manufacturing.
2. Keep CCMU's covered at all times to prevent rain penetration that will cause efflorescence.
3. Block USA recommends the erection of a Sample Panel for color verification of units and mortar as well as good workmanship practices.

CONSTRUCTION

C. BLOCK LAYING

1. Keep Walls covered at end of each day and/or during rain to prevent efflorescence and color variation caused by water entering the cells of the CCMU's.
2. RainBloc® mortar admixture is chemically matched with the RainBloc® block admixture and should be used in mortar to ensure the highest level of water repellency of the CCMU masonry wall.
3. Block USA uses RainBloc® in the manufacturing of all CCMU's. RainBloc® is a registered trademark of ACM Chemistries. Block USA can provide RainBloc® mortar admixture in both liquid and premixed dry form (Ask for details on the pre mixed dry option).
4. Use proper flashing to prevent moisture penetration.
5. Flashing must be located properly – wherever moisture vapor or water can potentially move into CCMU's.
6. EIFS must be flashed.
7. Weep holes must be located 16" on center.
8. All head joints must be full with no "bug holes" –
   - This will restrict water penetration into CCMU's.
9. 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 to 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.
10. Block USA recommends grouting of CCMU's with low slump concrete. The addition of excessive water to make the grout flow more easily will cause excessive bleed water, which in turn will lead to efflorescence of the units. If a higher slump, more flowable grout is required, Block USA recommends the use of a super plasticizer admixture.
11. Use a dry blade to cut special sizes of CCMU's. DO NOT USE WATER.

POST CONSTRUCTION

D. CLEANING:

1. CCMU'S must be cleaned properly including mortar droppings, mortar splatters and efflorescence. Improper cleaning materials and/or methods will also harm water repellency.
2. Do not use water pressure over 50 PSI – using high pressure will cause efflorescence, streaking and color variation. Use of pressure higher than 50 psi relieves Block USA of any liability.
3. Block USA recommends using "Prosoco's Custom Masonry Cleaner" to clean CCMUs. Depending on the size of the job, Prosoco can provide a field representative on the jobsite to help instruct personnel how to clean the block properly. Block USA can provide the cleaning agent and related supplies, and can ship them with the CCMU's to your jobsite.
4. 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 CCMUs.
2. Wet mud or bark will cause efflorescence staining of CCMU – Block USA 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, This will prevent water from running back under the sill and down the face of the wall onto metal devices or other stain producing items attached to wall. These items should be isolated 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.

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F. COLOR VARIATION

1. Block USA uses the most economical high-quality consistent aggregates available for manufacturing of CCMUs. These are all natural mined materials and are subject to variation.
   - Solid units – due to moisture – may appear darker than cored units.
   - Smooth CCMU block units will intensify any color and texture variation of the natural materials more than split face 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 CCMUs produced at different times. Ex: additions, change order, etc.
   - Block USA does not manufacture each order at the same time but will generally produce the order according to size over a 2 week manufacturing cycle.

G. WATER REPELLENCY

1. Water Repellency should not be confused with water proof. Block USA's CCMUs are water repellent. In the Southeastern United States, west and southwest facing walls in particular are subject to more moisture due to typical prevailing weather conditions. Therefore, Block USA recommends that all exterior walls be treated with a sealer to provide the highest level of water repellency.

H. SEALER

1. The timining of sealer application on any block surface should be carefully considered. If the sealer is applied to a wall that still contains excess 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. Prior to the application of sealer 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.
   - Sealers can affect the color of CCMUs. The approved sealer should be applied to a sample panel for approval and reference.
   - Apply a second coat of sealer of masonry surfaces that are porous.
   - All windows must be covered and all cars removed before spray application of sealers. Glass and finished metal can be damaged by sealer overspray. Sealers are extremely difficult to remove from glass.

ARCHITECTURAL CMU SPECIAL ORDER CHECKLIST

Block USA recommends that a sample panel or loose sample block be supplied to the arhitect and/or owner for final color approval. A signature is required prior to CCMU's being scheduled for production. Note that samples will be supplied from a different batch, therfore a variation in color may occur. By signing below you also acknowledge that Block USA's best practices have been reviewed.

Project Name: _____

Color 1: _____

Color 2: _____

Sample Panel Constructed? _____ YES _____ NO

Full Size Block Sample Provided? _____ YES _____ NO

Sample Approved By: _____ Date: _____

Buyers Signature: _____ Date: _____

Production of materials will be scheduled after receipt of this completed document

NCMA Tek-Notes are available through Block USA's website

WWW.SPECBLOCKUSA.COM

Contact your local Block USA Sales Representative for a list of recommended Sealers