



## PRODUCT DESCRIPTION

**BASIC USE** A clay facing brick unit used in masonry construction for both interior and exterior applications.

For residential, commercial and institutional applications.

**COMPOSITION AND MATERIAL** Brick are manufactured from clay, shale or similar naturally occurring earthy substances and subjected to a heat treatment at elevated temperatures (firing) creating a bond between the particulate constituents resulting in a severe-weathering brick with one or more finished faces. Custom shapes and sizes are available.

**SHAPES AND SIZES** General Shale brick products are available in a variety of standard sizes.

	Height	Length	Bed
<b>Modular</b>	2-1/4"	7-5/8"	3-5/8"
<b>Norman</b>	2-1/4"	11-5/8"	3-5/8"
<b>Closure</b>	3-5/8"	7-5/8"	3-5/8"
<b>Utility</b>	3-5/8"	11-5/8"	3-5/8"
<b>Monarch</b>	3-5/8"	15-5/8"	3-5/8"
<b>Engineer</b>	2-3/4"	7-5/8"	3-5/8"

General Shale produces many architectural shapes to work with most brick sizes, and can also produce custom brick shapes and arches.

**TOLERANCES** Cleveland County Plant brick is manufactured to meet the FBX, FBS or FBA tolerances of ASTM C216.

General Shale bricks are inspected to be sound and free of cracks, blemishes or other defects that would either affect the serviceability or strength of the unit, or become exposed once installed and visible when viewed from a distance of not less than 20 ft. under diffused light.

**LIMITATIONS** Manufactured masonry products are generally intended for above grade installations. Manufactured masonry units, regardless of their composition, are inherently absorptive, and as such, are not intended for use below grade. Units installed below grade will wick moisture from the soil that is in contact with the masonry units effectively creating a condition known as "rising damp" in the masonry veneer.

Standard brick units are not intended to be used as pavers. General Shale offers paving brick in a variety of colors for light traffic paving installations.

In colder climates, masonry walls at grade may also become exposed to de-icing compounds. As with other types of manufactured masonry units, clay brick masonry units should not be installed where they will be directly exposed to de-icing compounds used to melt snow and ice from pavements.

The function of caps and copings is to prevent moisture from entering the building envelope through the top of the wall. As most manufactured masonry units are produced in relatively short lengths, if they are used as a cap or coping material more mortar joints are required. These horizontal mortar joints are the most likely

entry point for moisture to infiltrate the building envelope. As such, it is generally recommended within the industry to install proper flashings below all caps and copings or to use longer components such as quarried stone or metal parapet caps to reduce the number of joints thereby limiting the areas that may allow moisture infiltration of the building envelope.

## COLORS AND FINISHES

The Cleveland County Plant produces brick in a wide spectrum of through the body colors and a variety of textures, including velour, smooth and rockface.

As a manufactured material, General Shale brick products are monitored for color consistency. Slight variations between batches may occur and it is recommended that the installer mix units from different skids during installation. Consultants should review samples prior to selecting a particular color and finish.

## TECHNICAL DATA

**APPLICABLE STANDARDS** Required properties for clay or shale brick units are described in [ASTM C 216, Standard Specification for Facing Brick \(Solid Masonry Units Made from Clay or Shale\)](#).

These standards classify clay and shale products as either moderate-weathering or severe-weathering depending on the material's tested physical properties of compressive strength and 24-hour absorption.

General Shale brick products meet and exceed the requirements necessary to comply with the severe-weathering classification. They have been extensively tested using standardized test methods found in [ASTM C 67, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile](#). Test reports are available upon request.

## INSTALLATION

**HANDLING** - Lift skids with proper and sufficiently long slings or forks with protection to prevent damage to units. Protect edges and corners.

**STORAGE** - Store General Shale products in a manner designed to prevent damage and staining of units. Stack units on timbers or platforms at least 3" above grade. Place polyethylene or other plastic film between wood and other finished surfaces of units when stored for extended periods of time.

Stored units should be covered if exposed to extreme weather conditions.

Do not use de-icing compounds to remove ice from masonry surfaces.

**PREPARATORY WORK** It may be advantageous under hot, dry weather or windy conditions to adjust mortar proportions or take further precautions to insure good bond between mortar and masonry units. For additional information refer to ASTM C 270 Standard Specification for Mortar for Unit Masonry.

For additional information when constructing in cold weather refer to General Shale technical bulletins titled Cold Weather Recommendations and Cold Weather Admixtures.

**INSTALLATION** General Shale brick products must be installed using approved materials and techniques for each specific installation.

Construct masonry veneer with an adequate number of elastic movement joints, properly located to accommodate differential movement.

Construct masonry veneer in accordance with ACI 530-05/ASCE 5-05/TMS 402-05, Building Code Requirements for Masonry Structures in the United States, and any local requirements stipulated by the authorities having jurisdiction.

Mortar joints between bricks in any direction should be nominally 3/8" thick.

Mortar for unit masonry veneer should be a type N masonry cement mix proportioned to a 1 : 2-1/4 – 3 ratio. This ratio refers to:

- 1 part Type N masonry cement (ASTM C270 Table 1)
- 2-1/4 – 3 parts masonry sand (ASTM C 144)

When properly combined with the appropriate quantity of water, it will produce a general-purpose mortar, exhibiting good workability and board life in its plastic state, and good durability and flexibility in its hardened state; and conforming to ASTM C 270-05a; Standard Specification for Mortar for Unit Masonry.

General Shale recommends constructing masonry veneer with proper drainage mechanisms, including clear draining air spaces, through wall flashing membranes and weep hole vents. The air spaces must be at least 1" wide, and kept clear of debris, protrusions, mortar fins and droppings. Weep hole vents should be installed at the same level as through wall flashing membranes and spaced not more than 24" on centre horizontally.

General Shale brick products must be connected to a structural substrate with an approved masonry connection system, designed by the consultant for each specific installation.

## **AVAILABILITY AND COST**

**AVAILABILITY** General Shale brick products are available throughout the continental United States, as full-bed masonry units.

Availability and various product details (colors, textures etc.) may vary by location. Please consult with your General Shale sales representative.

Delivery times for orders will vary based on the complexity of what is required. General Shale cannot be responsible for delays due to fire, acts of God, or any other cause beyond its control or which could not be reasonably foreseen.

Contact General Shale for a list of dealers in your area.

**COST** Quoted on a project basis for job-specific manufacturing to project requirements.

## **MAINTENANCE**

General Shale brick products should have excess mortar removed from their faces by brushing as they are placed within the wall at the point of tooling.

Clean General Shale brick products in accordance with the cleaning guidelines in General Shale Technical Bulletin Brick Cleaning Information. Various masonry detergents and cleaning systems can change the color of masonry products. Acid-based cleaning agents will darken the color of the masonry units.

Always pre-test cleaning agents and methods on the job-site mock-up panel or a small inconspicuous area of the wall. The Consultant and/or Owner should approve the test area prior to the start of full-scale cleaning operations.

General Shale does not recommend the application of water repellent or graffiti-proofing sealers to its masonry products.

## **TECHNICAL SERVICES**

General Shale offers consultation services to assist with design, detailing and specification questions and with pricing. Enquiries are attended to promptly and without obligation.

## **RELATED REFERENCES**

General Shale distributes an integrated technical information system, comprised of the following components:

Sample detail drawings which are available in .pdf format.

- General Shale Technical Bulletins which are available in .pdf format.
- Architectural Catalog Shape drawings,
- BIA Technical Notes and NCMA Tek Notes.

All of these technical resources are available to be downloaded from the General Shale web site at [www.GeneralShale.com](http://www.GeneralShale.com).

General Shale also makes available samples for color and finish, coursing charts, and copies of test reports upon request.

