

MIT

Design Standards

DIVISION 04 — Masonry

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Department
of Facilities

Table of Contents

1.	040120 - MASONRY AND STONE RESTORATION AND CLEANING	2
1.1	PROJECT INCLUDES	2
1.2	QUALITY ASSURANCE	2
1.3	PRODUCTS	2
2.	042000 - UNIT MASONRY	3
2.1	PROJECT INCLUDES	3
2.2	SUSTAINABLE DESIGN	3
2.3	QUALITY ASSURANCE	3
2.4	PRODUCTS	4
3.	044300 - STONE MASONRY	4
3.1	PROJECT INCLUDES	4
3.2	SUSTAINABLE DESIGN	5
3.3	QUALITY ASSURANCE	5
3.4	PRODUCTS	5

1. 040120 - MASONRY AND STONE RESTORATION AND CLEANING

1.1 Project Includes

Masonry and Stone Restoration may include the following:

1. Repointing mortar joints.
2. Repair of damaged clay masonry.
3. Repair of damaged stone masonry.
4. Re-anchoring veneer.

Masonry and Stone Cleaning may include the following:

1. Removal of plant growth.
2. Washing and cleaning exposed masonry surfaces.

1.2 Quality Assurance

Existing Masonry and Stone: MIT maintains a database of existing masonry types and sources. Request information from the MIT Project Manager.

Specialist: Historic Building Restoration Specialist is required.

Materials: Cleaning materials acceptable to environmental agencies and authorities having jurisdiction.

Protection: Protect contractor employees, general public, adjacent building materials, and surroundings from damage.

Field Constructed Mock Up: Each type of cleaning, repointing, and repair.

1.3 Products

Face Brick: Match existing or new as applicable. Reuse salvaged bricks where available.

Stone: Match existing or new as applicable. Reuse salvaged stone where available.

Repointing Mortar: Match existing with strength suitable for project conditions.

1. Portland Cement: ASTM C150, Type I, non-staining type.
2. Hydrated Lime: ASTM C207, Type S.

3. Aggregate for Mortar (Sand): ASTM C144.
4. Colored Mortar Aggregate: Colored sand.
5. Colored Mortar Pigment: Stable, nonfading, alkali-resistant oxide pigments.
6. Aggregate for Grout: ASTM C404.
7. Water.

Patching Materials: Compatible with existing materials; visual matching.

1. Composite patching mortars.
2. Cementitious and epoxy injection grout for cracked stone units.

Epoxy adhesives.

Ties and Anchors: Stainless steel, Type 304 or 316.

Cleaning Materials:

1. Water and steam.
2. Chemical cleaner.

2. 042000 - UNIT MASONRY

2.1 Project Includes

Unit masonry may include the following:

1. Brick veneer cavity walls on metal stud and concrete masonry unit partitions.
2. Concrete masonry bearing and non-bearing partitions.
3. Remodeling of existing masonry partitions

2.2 Sustainable Design

Provide unit masonry with the following sustainable design features:

1. Recycled content: CMU and metal accessories.
2. Regional materials: Brick and CMU.

2.3 Quality Assurance

Existing Masonry: MIT maintains a database of existing masonry types and sources. Request information from the MIT Project Manager.

Procedures for Historic Buildings at MIT: MIT maintains a database of drawings and specifications for project procedures. Request information from the MIT Project Manager.

Fire Performance for Fire-Rated Assemblies: ASTM E 119.

2.4 Products

Face Brick:

1. Grade: ASTM C216, Grade SW, severe weathering type areas subject to freeze thaw.
2. Type: ASTM C216, Type FBS, for general exposed use.
3. Special Shapes: As required by building configuration.
4. Bond Pattern: Running bond.

Concrete Masonry Units (CMU):

1. Type: ASTM C90, 1500 f_m compressive strength, normal weight.
2. Size: Face dimension of 7-5/8 inches high by 15-5/8 inches long by width required for application.
3. Concrete Building Brick: ASTM C55.
4. Special Shapes: As required by building configuration.
5. Bond Pattern: Running bond.

Mortar and Grout:

1. Mortar Mix: ASTM C270, Type N.
2. Mortar Materials: Portland cement, ASTM C150, Type I or II.
3. Mortar Aggregate: Natural color, ASTM C144.

Joint Reinforcing: Welded wire with deformed side rods.

1. Steel Wire: 9 gage galvanized steel.
2. Type: Galvanized ladder or truss type.

Ties and Anchors:

1. Anchor Bolts: ASTM A 307, Grade A, galvanized.

3. 044300 - STONE MASONRY

3.1 Project Includes

Stone masonry may include the following:

1. Exterior stone wall panels.

2. Exterior stone base.
3. Exterior stone stair treads and risers

3.2 Sustainable Design

Provide stone masonry with the following sustainable design features:

1. Recycled content: Metal accessories.
2. Regional materials: Stone.

3.3 Quality Assurance

Existing Stone: MIT maintains a database of existing masonry types and sources. Request information from the MIT Project Manager.

Procedures for Historic Buildings at MIT: MIT maintains a database of drawings and specifications for project procedures. Request information from the MIT Project Manager.

3.4 Products

Granite: Type is to be determined by project with DoF/OCP review. Finish varies depending on use.

Unit Pavers: For exterior flatwork refer to the Division 32 Appendix for the MIT Campus Standard Unit Pavers.

Joints: Mortar only.

Accessories: Stainless steel anchors, fasteners, flashings.

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