

1 GENERAL

1.01 RELATED REQUIREMENTS

- .1 Division 1 - General Requirements.
- .2 Section - 04 03 06 Historic - Cleaning Historic Masonry
- .3 Section - 04 03 07 Historic - Masonry Repointing
- .4 Section - 04 03 43 Historic Works - Dismantling Stone Masonry
- .5 Section - 04 03 08 Historic - Mortaring

1.02 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA A179-04, Mortar and Grout for Unit Masonry.
 - .2 CSA-A371-04, Masonry Construction for Buildings.
- .3 International Masonry Industry All-Weather Council (IMIAC)
 - .1 Recommended Practices and Guide Specification for Hot and Cold Weather Masonry Construction.

1.03 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-installation meetings: Conduct pre-installation meeting two weeks prior to commencing work of this Section to:
 - .1 Verify project requirements, including mock-up requirements.
 - .2 Verify substrate conditions.
 - .3 Co-ordinate products, installation methods and techniques.
 - .4 Sequence work of related sections.
 - .5 Co-ordinate with other building subtrades.
 - .6 Review manufacturer's installation instructions.
 - .7 Review masonry cutting operations, methods and tools and determine worker safety and protection from dust during cutting operations.
 - .8 Review warranty requirements.
- .2 Sequencing: sequence with other work in accordance with Section 01 32 16.07 - Construction Progress Schedules. Comply with manufacturer's written recommendations for sequencing construction operations.
- .3 Scheduling: schedule with other work in accordance with 01 32 16.07 - Construction Progress Schedule - Critical Path Method (CPM).

1.04 ACTION SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, limitations and colours.

- .2 Provide one copies of Workplace Hazardous Materials Information System (WHMIS) - Material Safety Data Sheets (MSDS) in accordance with Section 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures.
- .3 Samples:
 - .1 Provide samples as follows:
 - .1 Five cured, and coloured samples of mortar, illustrating mortar colour and colour range, supplemented with specific requirements in Section 04 05 08 - Historic Works - Mortars.
 - .2 Samples: used for testing and when accepted become standard for material used.

1.05 INFORMATION SUBMITTALS

- .1 Certificates: provide manufacturer's product certificates certifying materials comply with [specified requirements].
- .2 Test and Evaluation Reports:
 - .1 Test reports to certify compliance of mortar ingredients with specified performance characteristics and physical properties.
- .3 Installer Instructions: provide manufacturer's installation instructions, including storage, handling, safety and cleaning.

1.06 CLOSEOUT SUBMITTALS

- .1 Provide manufacturer's instructions for care, cleaning and maintenance of prefaced masonry units for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.07 EXTRA MATERIALS

- .1 Provide manufacturer's instructions in accordance with Section 01 78 00 - Closeout Submittals covering maintenance requirements and parts catalogue, with cuts and identifying numbers.

1.08 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Masons: Use only qualified Masons competent to meet all performance criteria specified.
 - .1 Masons employed on this project must demonstrate ability to reproduce mock-up standards.
- .2 Mock-ups:
 - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
 - .2 Construct mock-up panel of interior masonry wall construction 1000 x 1000 mm showing masonry colours and textures, jointing, coursing, mortar and workmanship.
 - .3 Mock-up used:
 - .1 To judge workmanship, substrate preparation, operation of equipment and material application.
 - .2 For testing to determine compliance with performance requirements. Perform following tests.

- .1 For clay units, in addition to requirements set out in referenced CSA and ASTM Standards include data indicating initial rate of absorption.
- .4 Construct mock-up where directed by Departmental Representative.
- .5 Allow 48 hours for inspection of mock-up by Departmental Representative before proceeding with work.
- .6 When accepted by Departmental Representative, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.
- .7 Start work only upon receipt of written acceptance of mock-up by Departmental Representative.

1.09 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .3 Storage and Handling Protection:
 - .1 Keep materials dry until use.
 - .2 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.

1.10 SITE CONDITIONS

- .1 Ambient Conditions: assemble and erect components when temperatures are above 10 degrees C.
- .2 Weather Requirements: to CSA-A371 - Recommended Practices and Guide Specifications for Hot and Cold Weather Masonry Construction.
- .3 Cold weather requirements:
 - .1 To CSA-A371 with following requirements.
 - .1 Maintain temperature of mortar between 10 degrees C and 30 degrees C until batch is used or becomes stable.
 - .2 Maintain ambient temperature of masonry work and it's constituent materials between 10 degrees C and 30 degrees C and protect site from windchill.
 - .3 Maintain temperature of masonry above 5 degrees C for minimum of 28 days, after mortar is installed.
 - .4 Preheat unheated wall sections in enclosure for minimum 72 hours above 10 degrees C, before applying mortar.
 - .2 Hot weather requirements:
 - .1 Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.
 - .2 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until masonry work is completed and protected by flashings or other permanent construction.
 - .3 Spray mortar surface at intervals and keep moist for maximum of three days after installation.

1.11 WARRANTY

- .1 For Work in this Section 04 05 00 - Common Work Results for Masonry, 12 months warranty period is extended to 24 months.

2 PRODUCTS

2.01 MATERIALS

- .1 Masonry materials are specified elsewhere in related Sections:
 - .1 04 03 08 Historic Mortaring.

3 EXECUTION

3.01 INSTALLERS

- .1 Experienced and qualified masons to carry out erection, assembly and installation of masonry work.

3.02 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.03 EXAMINATION

- .1 Examine conditions, substrates and work to receive work of this Section.
 - .1 Co-ordinate with Section 01 71 00 - Examination and Preparation.
- .2 Examine openings to receive masonry units. Verify opening size, location, and that opening is square and plumb, and ready to receive work of this Section.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation after unacceptable conditions have been remedied and after receipt of written approval from Departmental Representative.
- .3 Verification of Conditions:
 - .1 Verify that:
 - .1 Field conditions are acceptable and are ready to receive work.
 - .2 Built-in items are in proper location, and ready for roughing into masonry work.
 - .2 Commencing installation means acceptance of existing substrates.

3.04 PREPARATION

- .1 Surface Preparation: prepare surface in accordance with manufacturer's written recommendations.
- .2 Establish and protect lines, levels, and coursing.

- .3 Protect adjacent materials from damage and disfiguration.

3.05 INSTALLATION

- .1 Do masonry work in accordance with CSA-A371 except where specified otherwise.
- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment, respecting construction tolerances permitted by CSA-A371.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

3.06 CONSTRUCTION

- .1 Exposed masonry:
 - .1 Remove chipped, cracked, and otherwise damaged units, in accordance with CSA A-165, in exposed masonry and replace with undamaged units.
- .2 Jointing:
 - .1 Allow joints to set just enough to remove excess water, then tool with round jointer to provide smooth finish to match existing.
 - .2 Allow joints to set just enough to remove excess water, then rake joints uniformly to 6 mm depth and compress with square tool to provide smooth, compressed, raked joints of uniform depth where raked joints are indicated.
 - .3 Strike flush joints concealed in walls and joints in walls to receive plaster, tile, insulation, or other applied material except paint or similar thin finish coating.
- .3 Interface with other work:
 - .1 Cut openings in existing work as indicated.
 - .2 Openings in walls: reviewed by Departmental Representative.
 - .3 Make good existing work. Use materials to match existing.

3.07 SITE TOLERANCES

- .1 Tolerances in notes to CSA-A371 apply.

3.08 FIELD QUALITY CONTROL

- .1 Site Tests, Inspection:
 - .1 Perform field inspection and testing in accordance with Section 01 45 00 - Quality Control.
 - .2 Notify inspection agency minimum of 48 hours in advance of requirement for tests.

3.09 CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 Progress Cleaning: in accordance with related masonry sections.
- .3 Final Cleaning:
 - .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

- .2 Upon completion of installation and verification of performance of installation, remove surplus materials, rubbish, tools and equipment barriers.

3.10 PROTECTION

- .1 Temporary Bracing:
 - .1 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.
 - .2 Bracing approved by Departmental Representative.
 - .3 Brace masonry walls as necessary to resist wind pressure and lateral forces during construction.
- .2 Moisture Protection:
 - .1 Keep masonry dry using waterproof, nonstaining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until completed and protected by flashing or other permanent construction.
 - .2 Cover completed and partially completed work not enclosed or sheltered with waterproof covering at end of each work day. Anchor securely in position.
 - .3 Air Temperature Protection: protect completed masonry as recommended in 1.10 SITE CONDITIONS.

END OF SECTION