

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 01 45 00 – Testing and Quality Control.
- .4 Section 01 61 00 - Common Product Requirements.
- .5 Section 04 05 12 - Mortar and Masonry Grout.
- .6 Section 04 05 19 - Masonry Anchorage and Reinforcing.
- .7 Section 04 21 13 – Brick Masonry.
- .8 Section 04 22 00 - Concrete Unit Masonry.
- .9 Section 07 21 13 - Board Insulation.
- .10 Section 07 27 10 – Air Barrier.
- .11 Section 07 92 00 - Joint Sealants.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CSA-A165 Series-04(R2009), Standards on Concrete Masonry Units.
 - .2 CSA A179-04(2009), Mortar and Grout for Unit Masonry.
 - .3 CSA-A371-04 (R2009), Masonry Construction for Buildings.

1.3 SUBMITTALS

- .1 Product Data
 - .1 Submit manufacturer’s printed product literature, specifications and data, including product characteristics, performance criteria, limitations and colours.
 - .2 Submit two copies of Workplace Hazardous Materials Information system (WHMIS) – Material Safety Data Sheets (MSDS).
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- .3 Samples
 - .1 Submit samples:
 - .1 Two of each type of masonry unit specified including special shapes.
 - .2 One of each cured and coloured samples of mortar and grout, illustrating mortar colour and colour range.
 - .3 One of each type of masonry accessory specified.
 - .4 One of each type of masonry reinforcement, tie and connector proposed for use.
 - .2 Submit samples tested to laboratories employing technicians certified/trained in procedures for testing masonry units.
 - .3 Samples used for testing, when accepted, become standard for material used.
- .4 Shop Drawings
 - .1 Provide drawings stamped and signed by professional engineer licensed in Province of Newfoundland and Labrador, Canada.
 - .2 Provide confirmation to Departmental Representative that temporary bracing and support has been designed by professional engineer.
- .5 Manufacturer's Instructions
 - .1 Submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .1 Submit laboratory test reports certifying compliance of masonry units and mortar ingredients with specification requirements.
 - .2 Submit certified test reports showing compliance with specified performance characteristics and physical properties.
 - .3 For clay units, in addition to requirements set out in referenced CSA and ASTM Standards include data indicating initial rate of absorption.
 - .4 Qualifications:
 - .1 Manufacturer: minimum five (5) years experience in manufacturing components similar to or exceeding requirements of project.
 - .2 Installer: experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
 - .3 Masons: company or person specializing in masonry installations with minimum five (5) years documented experience with masonry work similar to this project.
 - .1 Masons employed on this project must demonstrate ability to reproduce mock-up standards.
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1.5 JOB MOCK-UPS

- .1 Construct mock-ups in accordance with Section 01 45 00 – Quality Control.
- .2 Construct mock-up panel of exterior masonry wall construction 1200 x 1800 mm showing masonry colours and textures, use of reinforcement, ties, through-wall flashing, weep holes, jointing, coursing, mortar and workmanship.
- .3 Mock-up will be used to judge workmanship, substrate preparation, operation of equipment and material application.
- .4 Construct mock-up where directed.
- .5 provide written notice of mock-up completion and allow 48 hrs after completion of mock-up for Departmental Representative review. Commence work only upon receipt of approval of mock-up by Departmental Representative.
- .6 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may remain as part of finished work.

1.6 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver materials to job site in dry condition.
- .3 Storage and Protection.
 - .1 Keep materials dry until use except where wetting of bricks is specified.
 - .2 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal paper plastic, polystyrene, corrugated cardboard pallets and packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.
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- .4 Unused metal materials are to be diverted from landfill to a metal recycling facility as approved by Departmental Representative.
- .5 Unused or damaged masonry materials must be diverted from landfill to a local quarry facility as approved by Departmental Representative.

1.8 SITE CONDITIONS

- .1 Site Environmental Requirements.
 - .1 Cold weather requirements.
 - .1 To CSA-A371 with following requirements.
 - .1 Maintain temperature of mortar between 5 degrees C and 50 degrees C until batch is used or becomes stable.
 - .2 Maintain ambient temperature between 5 degrees C and 50 degrees C and protect site from wind chill.
 - .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.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Masonry materials are specified in Related Sections.

PART 3 - EXECUTION

3.1 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.

3.2 PREPARATION

- .1 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.
 - .2 Bracing approved by Departmental Representative.
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- .3 Protect adjacent materials from damage and disfiguration.

3.3 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.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

3.4 CONSTRUCTION

- .1 Exposed masonry.
 - .1 Remove chipped, cracked, and otherwise damaged units, in accordance with CSA A-165, Clause 82.1, 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, joints true to line, compressed, uniformly concave joints.
 - .2 Strike flush joints concealed in walls and joints in walls to received insulation.
 - .3 Cutting.
 - .1 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects.
 - .2 Make cuts straight, clean, and free from uneven edges.
 - .4 Building-In.
 - .1 Build in items required to be built into masonry.
 - .2 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.
 - .3 Brace door jambs to maintain plumb, fill spaces between jambs and masonry with mortar.
 - .5 Wetting of bricks.
 - .1 Except in cold weather, wet bricks having an initial rate of absorption exceeding 1 g/minute/1000 mm²: wet to uniform degree of saturation, 3 to 24 hours before laying, and do not lay until surface dry.
 - .2 Wet tops of walls built of bricks qualifying for wetting, when recommencing work on such walls.
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- .6 Support of loads.
 - .1 Use 20 MPa concrete to Section 03 30 00 - Cast-in-Place Concrete, where concrete fill is used in lieu of solid units.
 - .2 Use grout to CSA A179 where grout is used in lieu of solid units.
 - .3 Install building paper below voids to be filled with grout, keep paper 25 mm back from faces of units.

- .7 Provision for movement.
 - .1 Leave 3 mm space below shelf angles.
 - .2 Leave 6 mm space between top of non-load bearing walls and partitions and structural elements. Do not use wedges.
 - .3 Built masonry to tie in with stabilizers, with provision for vertical movement.

- .8 Loose steel lintles.
 - .1 Install loose steel lintels. Centre over opening width.

- .9 Control joints:
 - .1 Construct continuous control joints as indicated.

3.5 SITE TOLERANCES

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

3.6 FIELD QUALITY CONTROL

- .1 Inspection and testing will be carried out by Testing Laboratory designated by Departmental Representative.

3.7 CLEANING

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

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

- .1 Temporary Bracing and Supports:
 - .1 Provide temporary bracing and supports of masonry work during and after erection until permanent lateral support is in place.
 - .2 Provide confirmation to Departmental Representative that temporary bracing and support has been designed by professional engineer.
 - .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: project completed masonry as per Part 1 article Site Conditions.