

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 04 03 08 - Historic - Mortaring.
- .2 Section 04 03 31 - Historic - Replacing Brick.
- .3 Section 04 03 42 - Historic - Replacing Stone.
- .4 Section 04 03 43 - Historic - Dismantling Stone Masonry.
- .5 Section 04 05 00 - Common Work Results for Masonry.

1.2 REFERENCES

- .1 Definitions:
 - .1 Raking: removal of loose/deteriorated mortar to a depth of 75 mm for a stone veneer and 25 mm for a brick veneer.
 - .2 Repointing: filling and finishing of masonry joints from which mortar is missing has been raked out or has been omitted.
 - .3 Tooling: finishing of masonry joints using tool to provide final contour.
 - .4 Low-pressure water cleaning: water soaking of masonry using less than 350 kPa (50 psi) water pressure, measured at nozzle tip of hose.
- .2 Reference Standards:
- .3 CSA International
 - .1 CAN/CSA A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test for Concrete.
 - .2 CAN/CSA A179, Mortar and Grout for Unit Masonry.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide manufacturer's printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
 - .1 Provide labelled samples of materials used on project for approval before work commences.
- .4 Test and Evaluation Reports:
 - .1 Provide certified test reports showing compliance with specified performance characteristics and physical properties.

- .2 Provide laboratory test reports certifying compliance of mortar ingredients with specifications requirements.

1.4 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Refer to Section 04 05 00 - Common Work Results for Masonry.
- .2 Mock-ups:
 - .1 Construct mock-up in accordance with Section 01 45 00 - Quality Control.
 - .2 Construct mock-up 1.5 m x 1.5 m to demonstrate raking and repointing procedures for masonry material specified in locations designated by Departmental Representative.
 - .3 Notify Departmental Representative minimum of 48 hours prior to construction of the mock-up.
 - .4 Perform mock-up of masonry cleaning with low pressure 15 psi clean water and soft natural bristle brush.
 - .5 Construct mock-up under supervision of Departmental Representative to demonstrate a full understanding of specified procedures, techniques and formulations is achieved before work commences.
 - .6 Construct mock-up where directed by Departmental Representative.
 - .7 Work not to proceed prior to approval of mock-up. Allow 48 hours for inspection of mock-up by Departmental Representative before proceeding with masonry repointing work.
 - .8 Accepted mock-up will demonstrate minimum standard for this work. Mock-up will remain as part of finished work.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.
 - .2 Keep material dry. Protect from weather, freezing and contamination.
 - .3 Ensure that manufacturer's labels and seals are intact upon delivery.
 - .4 Remove rejected or contaminated material from site.
- .3 Packaging Waste Management: remove in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.6 AMBIENT CONDITIONS

- .1 Maintain masonry temperature between 10 degrees C and 25 degrees C for duration of work.
- .2 When ambient temperature is below 10 degrees C:

- .1 Store mortar materials for immediate use within heated enclosure in accordance with Section 04 03 08 - Historic - Mortaring. Allow mortar materials to reach minimum temperature of 10 degrees C before use.
- .2 Only water should be heated before use.
- .3 Provide hot water to a maximum 40 degrees C on site during cold weather.
- .3 Maintain mortar mix temperature between 10 degrees C and 30 degrees C.

Part 2 Products

2.1 MORTAR

- .1 Mortar: in accordance with CAN/CSA A179 and Section 04 03 08 - Historic - Mortaring.

Part 3 Execution

3.1 SITE VERIFICATION OF CONDITIONS

- .1 Report in writing to Departmental Representative areas of deteriorated masonry not previously identified.
- .2 Stop work in that area and report to Departmental Representative immediately evidence of hazardous materials.

3.2 PROTECTION OF IN-PLACE CONDITIONS

- .1 Protection requirements are specified in Section 04 05 00 - Common Work Results for Masonry.

3.3 RAKING JOINTS

- .1 Use manual raking tool to remove deteriorated and bonded mortar from masonry units. The use of saws is strictly prohibited.
 - .1 Remove deteriorated mortar and adhered mortar from masonry elements to sound mortar or 75 mm in depth in stone veneer and to 25 mm in depth in brick veneer, leaving square corners and a flat surface at back of cut.
 - .2 Considering that the mortar contains lead, take all the precautions required when raking joints, in accordance with Section 02 83 10 - Lead Abatement - Minimum Precautions or with Section 02 83 12 - Lead Abatement - Maximum Precautions (based on the assessment which will be carried out at the beginning of the work).
 - .3 Clean out voids and cavities encountered.
- .2 Ensure that no stones and other masonry units are chipped, altered or damaged by work to remove mortar in joints.
- .3 Clean surfaces of joints by compressed air or water under low pressure without damaging texture of masonry units.
- .4 Flush open joints and voids; clean open joints and voids with low pressure water and if not free draining blow clean with compressed air.

- .5 Leave no standing water.

3.4 REPOINTING:

- .1 Dampen joints as well as masonry units.
- .2 Keep masonry damp while pointing is being performed.
- .3 Completely fill joint with mortar. Use type « N » mortar in stone veneer and brick veneer.
 - .1 Where surface of masonry units has worn rounded edges keep pointing back from surface to keep same width of joint.
 - .2 Avoid feather edges.
 - .3 Pack mortar solidly into voids and joints.
- .4 Build-up pointing in layers not exceeding 25 mm in depth.
 - .1 Allow each layer to set before applying subsequent layers.
 - .2 Maintain joint width to full depth.
- .5 Tool and finish joints as directed by Departmental Representative.
 - .1 Finish joints in sandstone veneer and brick veneer to match existing joints.
 - .2 Finish joints in limestone veneer to obtain a concave profile (half-round or grooved).
 - .3 Tool, compact and finish using jointing tool or mason's slick.
- .6 Remove excess mortar from masonry face before it sets.

3.5 PROTECTION DURING CURING PROCESS

- .1 Cover completed and partially completed work not enclosed or sheltered at end of each work day.
 - .1 Membranes should extend to 0.5 m over surface area of work and be tightly installed to prevent finished work from drying out too rapidly.
 - .2 Protection membranes should be secured to withstand the high winds and harsh weather to which the building is fully exposed.
- .2 Cover with waterproof tarps to prevent weather from eroding recently repointed material.
 - .1 Maintain tarps in place for minimum of (2) weeks after repointing.
 - .2 Ensure that bottoms of tarps permit airflow to reach mortar in joints.
- .3 Anchor coverings securely in position.
- .4 Damp cure:
 - .1 Provide damp cure for pointing mortars.
 - .2 Install and maintain wetted protection geotextiles during the curing process:
 - .1 Minimum 7 days.
 - .3 Wet mist geotextiles only - ensure no direct spray reaches surface of curing mortar.

- .4 Shade areas of work from direct sunlight and maintain constant dampness of geotextiles.
- .5 Cover wetted protection tarps with polyethylene sheets or nylon tarps.
- .5 Protect from drying winds. Pay particular attention at corners of structure.
- .6 Maintain ambient temperature of minimum 10 degrees C after repointing masonry for:
 - .1 Minimum 7 days in summer.
 - .2 Minimum 30 days in cold weather conditions using dry heated enclosures.

3.6 CLEANING

- .1 Clean surfaces of mortar droppings, stains and other blemishes resulting from work of this contract as work progresses.
- .2 Remove droppings and splashings using clean sponge and water.
- .3 Do further cleaning using stiff natural bristle brushes after mortar has attained its initial set and has not fully cured.
- .4 Clean masonry with stiff natural bristle brushes and plain water only if mortar has fully cured.
- .5 Clean masonry with low pressure 15 psi clean water and soft natural bristle brush.
- .6 Obtain approval of Departmental Representative prior to using other cleaning methods for persistent stains.
- .7 Waste Management: separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

3.7 PROTECTION OF COMPLETED WORK

- .1 Protect adjacent finished work against damage which may be caused by on-going work.

END OF SECTION