



Tyndall Stone®

450  
Million Years

*of* History

GILLISQUARRIES<sup>INC.</sup>



**Cover:** Tyndall Stone® façade:

SAWN FACE: sawn face finish, sawn top & bottom beds, grey colour, 90mm & 190mm course heights.

Planters and feature wall:

SPLIT FACE: split face finish, sawn top & bottom beds, grey colour, 4 course mixture of 40mm (1 1/2"), 57mm (2 1/4"), 90mm (3 1/2") & 123mm (4 7/8") course heights.

**Above:** Interior staircase treads, risers and flooring, rubbed finish, buff colour, custom cut dimension stonework.



The  
Source  
*of*  
Beauty



“Its unique mottled pattern, is of no set design, yet magically it breaks up the light. The air around it is soft and warm and indulgent, as it must have been eons ago when coral thrived in the prehistoric Manitoba sea waters. The stone gives back to us the warmth it received in its making.”

Canadian Geographic.



**Left:** 450 million year old Tyndall Limestone blocks up to 10 tonnes each are being quarried and extracted from pits 30 kms North East of Winnipeg, Manitoba, Canada.

**Above:** Large diamond tip blade saws are used to cut stone from the Earth's crust.

- RIDGESTONE: split face finish, 1 split bed & 1 sawn bed, grey colour, course heights vary from 40mm (1 1/2") to 80mm (3 1/8"), complete with sawn finish, grey colour sills.







- SPLIT FACE: split face finish, sawn top & bottom beds, grey colour, three courses 57mm (2 1/4"), 123mm (4 7/8"), 190mm (7 1/2"), complete with sawn finish, grey colour quoins and sill.







- SPLIT FACE: split face finish, sawn top & bottom beds, grey colour, single course height 90mm (3 ½”), complete with sawn finish grey colour quoins and sill.







- SPLIT FACE: split face finish, sawn top & bottom beds, grey colour, single course 57mm (2 ¼"), complete with custom cut sawn finish, grey colour details and capstones.

## SPECIFICATIONS CUT DIMENSION LIMESTONE

### Part 1.0 – GENERAL

#### 1.1 SECTION INCLUDES:

Work under this section shall include all labour, materials, equipment and services necessary for the completion of all cut dimension limestone work as shown on the drawing or hereinafter specified.

#### 1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION:

(e.g.-pavers or landscaping blocks, etc.)

#### 1.3 RELATED SECTIONS:

Other Masonry Sections (e.g. – Procedures, Mortar & Grout, Accessories, Reinforcing & Tying, Brick, Concrete Units); Dovetail slots in concrete for anchors; Steel inserts, shelf angles, supports; Anchors & Ties; Insulation; Air or Vapour Barrier; Caulking & Sealants; etc.

#### 1.4 SUBMITTALS:

.1 Shop Drawings – Furnish and submit detailed shop drawings under provisions of Section 01300, showing accurately dimensions and anchoring of all cut stone work. Setting numbers to be affixed to shop drawings after final approval and copies distributed as required. No work to be started until final approval of shop drawings.

.2 Samples – Submit samples under provisions of Section 01300 indicating range of color and finish to be supplied.

#### 1.5 QUALITY ASSURANCE:

.1 Mock-Up (Optional) – Provide Mock-up under provision of Section 01400

#### 1.6 DELIVERY, STORAGE, AND HANDLING:

Deliver stone promptly and in setting sequence. On arrival check all stone for damage and report to carrier, noting damage on delivery document. Handle stone carefully with competent work men and proper equipment. Avoid chipping edges or corners. Store stone off ground and protect from dirt and damage.

#### 1.7 PROJECT/SITE CONDITIONS:

.1 Existing Conditions – Inspect and arrange for correction of defects or dimension errors in concrete or steel structural surfaces which would affect stone work.

.2 Field Measurements – Cooperate with stone supplier, verify (and if necessary provide) job measurements needed for the preparation of shop drawings.

### PART 2.0 – PRODUCTS

2.1 MAUFACTURER – Limestone shall be as quarried and supplied by Gillis Quarries Limited, Winnipeg, Canada.

2.2 MATERIAL – Stone shall be Manitoba Tyndall Stone®, a medium density limestone per ASTM C-119 and ASTM C-568. Stone shall be free from all defects which would affect appearance or durability. Quarry seams shall be well back from finished face. Fossils and other natural markings permitted only to the extent that they do not disfigure finished appearance. Loose or large white fossils not permitted.

.1 Color — shall be (specify – buff, grey, golden buff color).

2.3 OTHER MATERIALS – Include other applicable materials such as: water, sand, lime, cement, mortar, water repellent, insulation, caulking, control joints, anchors & ties, reinforcing, supports, flashing, etc.

#### 2.4 MIXES:

.1 Mortar –

One (1) part white non-staining cement

One (1) part lime

Six (6) parts sand OR,

.2 One (1) part approved non-staining premixed masonry cement

Three (3) parts sand

NOTE: If lump lime is used, paste must be properly aged before use. All mixtures must be used before initial set has taken place

– no retempering will be permitted.

Do not use integral waterproofing.

.3 Mortar – for pointing:

One (1) part non-staining cement

Two (2) parts white sand

Sufficient lime or lime putty to make as stiff a mixture as is workable.

#### 2.5 FABRICATION:

.1 Shop/Factory Finishing: Stone shall be manufactured accurately to sizes, shapes, and details as indicated on drawings. Except where drawings call for slopes, angles or curves, cut all stone square, with exposed faces true, beds and joints dressed straight and at right angles to faces. Back check stone as required for all structural work as indicated on drawings. Cut holes and sinkages as required for anchors, cramps and dowels etc. Cut and drill stone as required for the installation of electrical and mechanical work. Number each stone on the back or bed with non-staining paint to correspond to numbering on setting drawings. Projecting stone, steps, sills and copings shall be cut for setting on its natural bed.

.2 Face Finish: shall be (specify – sawn, machine rubbed, bush hammered, machine pointed, sandblasted, rustic, etc.)

### PART 3.0 – EXECUTION

#### 3.1 EXAMINATION/VERIFICATION OF CONDITIONS:

(See Part 1 General – Project/Site Conditions.)

#### 3.2 PREPARATION:

(See part 1 General – Field Measurements)

#### 3.3 INSTALLATION/APPLICATION/ERECTION:

.1 Setting Cut Stone: Brush stone free of dust, dampen slightly and set stone in accordance with approved setting drawings and numbered stones. Install anchors, dowels, cramps, clips, etc. as shown on approved shop drawings. Use competent workmen only and set stone plumb, true and level, with joints, anchor and lewis holes flushed full with mortar. All joints shall be \_\_\_mm (6mm, or 10mm) wide except where otherwise indicated. Do not build up stone facing more than one course above backing. Use wood wedges (fully expanded by soaking) where necessary to prevent crushing mortar under heavy stones. Projecting stones shall be propped or anchored until wall above is set. Projecting stones shall have 65% of mass within the bearing wall. Set ends only of lugged sills or steps in full bed of mortar, balance of bed shall be free of mortar until pointed. Slip sills shall have a full bed of mortar. After setting stone, rake mortar out of face joints to depth of 20mm to allow for pointing. All mortar splashed on exposed stone faces to be removed at once with sponge and water.

.2 Pointing: Brush raked out joints clean, remove wedges, fill joints with pointing mortar, pack, work into joints, finish with pointing tool concave.

#### 3.4 FIELD QUALITY CONTROL:

After setting, protect projecting areas, corner, etc. with boards. Cover walls at night and during rains.

#### 3.4 ADJUST AND CLEAN:

Each day brush completed stonework clean with fibre bristle brushes, preferably dry, or with a minimum amount of clean water. Do NOT use wire brushes, acids, or acidic or alkaline cleaning compounds.

#### 3.5 PROTECTION:

.1 Water Repellent (Optional) – When exterior stonework is thoroughly dry, apply one floodcoat of a water solution of sodium methyl silicate (“Union Carbide R-20” or equal). Use brush, roller, or low pressure spray.

NOTE: These guide specifications follow as closely as possible the “MASTER SPECIFICATION” format developed and recommended by Construction Specifications Canada

## SPECIFICATIONS RANDOM ASHLAR LIMESTONE

### Part 1.0 – GENERAL

#### 1.1 SECTION INCLUDES:

Work under this section shall include all labour, materials, equipment and services necessary for the completion of all random ashlar limestone work as shown on the drawing or hereinafter specified.

#### 1.2 RELATED SECTIONS:

Other Masonry Sections (e.g. – Procedures, Mortar & Grout, Accessories, Reinforcing & Tying, Brick, Concrete Units); Dovetail slots in concrete for anchors; Steel inserts, shelf angles, supports; Anchors & Ties; Insulation; Air or Vapour Barrier; Caulking & Sealants; etc.

#### 1.3 SUBMITTALS:

1. Samples – Submit samples under provisions of Section 01300 indicating range of colour and finish to be supplied.

#### 1.4 DELIVERY, STORAGE, AND HANDLING:

Deliver Stone Promptly in accordance with job schedule requirements. On arrival check all stone for damage and report to carrier, noting damage on delivery document. Handle stone carefully. Avoid chipping edges or corners. Store stone off ground and protect from dirt and damage.

#### 1.5 PROJECT/SITE CONDITIONS:

1. Existing Conditions – Inspect and arrange for correction of defects or dimension errors in concrete or steel structural surfaces which would affect stone work.

### PART 2.0 – PRODUCTS

2.1 MANUFACTURER – Limestone shall be as quarried and supplied by Gillis Quarries Limited, Winnipeg, Canada.

2.2 MATERIAL – Stone shall be Manitoba Tyndall Stone® Random Ashlar, a medium density limestone per ASTM C-119 and ASTM C-568.

1. Color — shall be (specify – buff, grey, golden buff, or mixed color.

2. Grade – shall be Standard Grade. (Specify Select Grade only for special interiors.)

2.3 OTHER MATERIALS – Include other applicable materials such as: water, sand, lime, cement, mortar, water repellent, insulation, caulking, control joints, anchors & ties, reinforcing, supports, flashing, etc.

#### 2.4 MIXES:

Mortar –

One (1) part white non-staining cement

One (1) part lime

Six (6) parts sand OR,

One (1) part approved non-staining premixed masonry cement

Three (3) parts sand

NOTE: If lump lime is used, paste must be properly aged before use.

All mixtures must be used before initial set has taken place – no retempering will be permitted.

Do not use integral waterproofing.

#### 2.5 FABRICATION:

1. Shop/Factory Finishing: Stone shall be supplied in random lengths (to be further jointed on the job by the setting contractor as required) and shall be supplied in course heights and wall thickness as follows: Course heights shall be:

2. Single Course – specify 57mm, 90mm, 123mm, or 190mm course height.

3. Three Course – Specify 15% to be 57mm course, 50% to be 123mm course, 35% to be 190mm course.

4. Rustic Ranch Rock, Rustic LedgeStone – specify random course height. (WEB-WALL – specify approximate sizes and percentages of pieces desired.)

5. Wall Thickness shall be – specify 90mm for normal veneered or cavity walls. Specify greater depths as required for engineered load bearing walls.

6. Top & Bottom Beds shall be — specify “Sawn” for SINGLE COURSE and THREE COURSE, and “SPLIT” for all other varieties.

7. Ends shall be – specify “Sawn” for SINGLE COURSE and THREE COURSE, and “Split” for all other varieties.

8. Face Finish shall be – specify “Split Face” or “Sawn Face” etc. for SINGLE COURSE and THREE COURSE.

### PART 3.0 – EXECUTION

3.1 EXAMINATION/VERIFICATION OF CONDITIONS: (see Part 1 General – Project/Site Conditions.)

#### 3.2 INSTALLATION/APPLICATION/ERECTION:

1. Setting Random Ashlar Stone:

2. Patterns & Joints – SINGLE COURSE – Stone strips shall be laid up in full beds of mortar in a series of continuous single rises or coursings, taking care to build best split-face to outside. Stagger vertical joints for balanced appearance; no vertical joint to fall directly over another. All vertical joints to be sawn for best appearance. All joints to be 10mm in width. Mortar in all vertical joints to be packed flush with split stone face. Mortar in all horizontal joints to be tooled slightly. Protruding stone end edges to be chipped off on the job by the setting contractor to create a more continuous coursing, and to achieve a more monolithic appearance to finished wall.

3. Pattern & Joints – THREE COURSE – Stone strips shall be laid up in full beds of mortar in various lengths and course heights, taking care to form random pattern. Select and build best face to outside. Break horizontal joints as often as possible. No horizontal joint to continue for more than five stones, (except where a control joint is required). Break vertical joints as often as possible. No vertical joint to continue for more than three stone, (except where a control joint is required). All vertical joints to be sawn. All joints to be raked so that each stone stands out. All joints to be 10mm width. Protruding stone end edges to be chipped off on the job by setting contractor to achieve a more monolithic appearance to finished wall.

4. Pattern & Joints — OTHER — Stone shall be laid up in full beds of mortar to form pattern and joint sizes as indicated on the drawing and / or hereinafter specified.

5. Colors (If mixed color specified) – Select colors to provide a random blended mixture of buff and grey stone. \_\_\_% if wall area to be buff, and \_\_\_% to be grey. Care to be taken for balanced distribution of colors.

6. Anchoring – Stone to be anchored to back-up wall with metal wall ties as specified spaced not more than 400mm apart vertically and 600mm horizontally (or as called for by local code). All anchors to be corrosion resistant material and to be supplied by the setting contractor.

7. Pitching – When machine-pitched face stone is being supplied, specify “stone ends to be pitched to march, on the job by the setting contractor.”

8. Other — Specify other related jobsite installation requirements such as: Structural supports, Flashing, Insulation, Vent and Weep holes, special cutting and fitting, etc.

#### 3.3 FIELD QUALITY CONTROL:

After setting, protect projecting areas, corner, etc., with boards. Cover walls at night and during rains.

#### 3.4 ADJUST AND CLEAN:

Each day brush completed stonework clean with fibre bristle brushes, preferably dry, or with a minimum amount of clean water. Do NOT use wire brushes, acids, or acidic or alkaline cleaning compounds.

#### 3.4 PROTECTION:

Water Repellent (Optional) – When exterior stonework is thoroughly dry, apply one floodcoat of a water solution of sodium methyl silicate (“Union Carbide R-20” or equal). Use brush, roller, or low pressure spray.

NOTE: These guide specifications follow as closely as possible the “MASTER SPECIFICATION” format developed and recommended by Construction Specifications Canada



- SPLIT FACE: split face finish, sawn top & bottom beds, buff colour, three course 57mm (2 ¼"), 123mm (4 7/8"), 190mm (7 ½"), complete with rubbed finish, buff colour custom cut details.



The  
Foundation  
*of*  
Excellence



**Above, Below, Right:** Interior flooring with Tyndall Stone® Tile, 297mm x 597mm x 10mm thick, honed finish, grey colour.









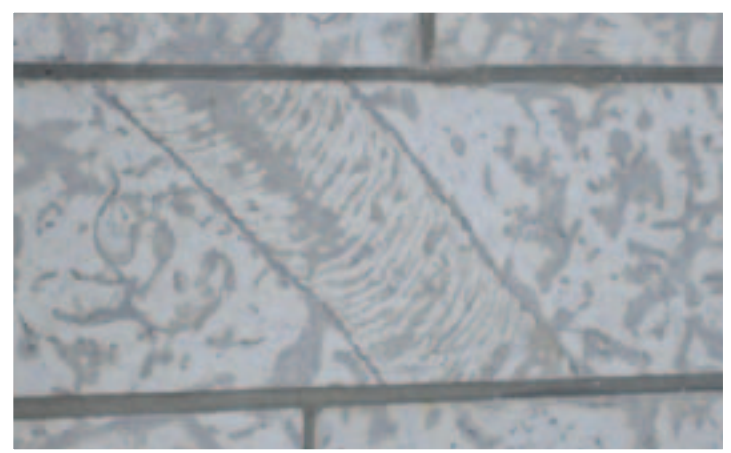
- SPLIT FACE: split face finish, sawn top & bottom beds, buff colour, three course 57mm (2 ¼"), 123mm (4 7/8"), 190mm (7 ½"), complete with sawn finish, buff colour custom cut arches, door entry and column panels.

- SPLIT FACE: split face finish, sawn top & bottom beds, buff colour, three course 57mm (2 1/4"), 123mm (4 7/8"), 190mm (7 1/2"), complete with rubbed finish, buff colour custom cut arches, door entry and column panels.





■ SAWN FACE: sawn face finish, sawn top & bottom beds, buff colour, single course 190mm ( 7 ½") home, garage and steps.

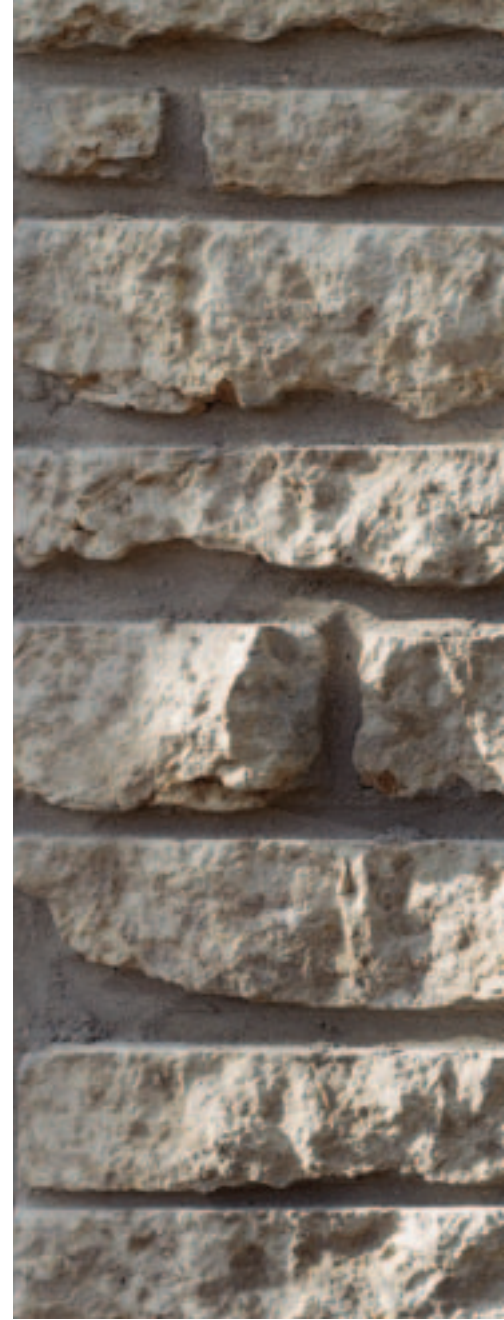


SAWN FACE: sawn face finish, sawn top & bottom beds, grey colour, single course 190mm (7 1/2")

Tyndall Stone® is geologically referred to as the upper mottled limestone of the Red River Formation of the Ordovician System. This Ordovician System dates back to the Paleozoic Era, approximately 450 million years ago when a tropical sea covered all of Manitoba. The fossils are the remains of corals, snails, cephalopods and brachiopods that lived in this tropical area.

*450  
Million Years  
of History*





- Façade: RIDGESTONE: split face finish, 1 split bed & 1 sawn bed, buff colour, course heights vary from 40mm (1 ½") to 80mm (3 ⅛").
- Window trims: SPLIT FACE: split face finish, sawn top & bottom beds, grey colour, custom cut on site complete with sawn finish, grey colour standard sills.
- Quoins: SAWN FACE: sawn face finish, sawn top & bottom beds, grey colour, 190mm (7 ½") x 190mm (7 ½").
- Door surround: SAWN FACE: sawn face finish, sawn top & bottom beds, grey colour, single course height 90mm (3 ½"), cut on site.



- Fireplace with Tyndall Stone® Tile, 297mm x 597mm x 10mm thick, honed finish, grey colour.

- Custom cut circular stair treads, rubbed finish, grey colour.







- Fireplace and flooring with Tyndall Stone® Tile, 297mm x 597mm x 10mm thick, honed finish, grey colour.







**Opposite Page :** Standard balusters and sill details, rubbed finish, buff colour.

**Left :** Custom cut front entry surround, rubbed finish, buff colour.

**Below:** Custom designed and cut fence pilasters and base, rubbed finish, buff colour.







- RUSTIC RANCH ROCK: rustic face finish, split top & bottom beds, mixed buff & grey colour range, three course 80mm (3 1/8"), 180mm (7 1/16"), 280mm (11") course heights.
- Custom cut sawn finish, grey colour, sills, arch and jamb details & coping.



■ Façade: COLONIAL: split face finish, split top & bottom beds, split ends, buff colour, two course 76mm (3") & 150mm (6") course heights.

■ Coping: SAWN FACE: sawn face finish, sawn top & bottom beds, buff colour, cut on site from single course 90mm (3 ½").







- Custom cut profiles for header and sill, rubbed finish, grey colour.





- SPLIT FACE: split face finish, sawn top & bottom beds, buff colour, single course 190mm (7 ½") for arches and jambs, custom cut on site from random length ashlar material , complete with standard sawn finish, buff colour, 57mm (2 ¼") high sills.



- RUSTIC RANCH ROCK: rustic face finish, split top & bottom beds, buff colour range, three course 80mm (3 1/8"), 180mm (7 1/16"), 280mm (11") course heights.

- DRYPACK: rustic face finish, split top & bottom beds, grey colour range, approximately 70mm (2 3/4") course height.





- RUBBED FACE: rubbed face finish, sawn top & bottom beds, grey colour, single course 290mm (11 7/16").



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