



## SECTION 06400

### NUSTONE™ – SIMULATED MOLDED STONE

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#### GENERAL

##### 1.1 SECTION INCLUDES

- .1 Furnish all materials, labour, equipment and services necessary for the supply and installation of NUSTONE™ Components as indicated on the drawings and contract documents, all in compliance with local codes and/or ordinances.
- .2 Works shall include supply of NUSTONE™ components, installation, grouting if required, patching, repairing and cleaning.

##### 1.2 RELATED SECTIONS

- .1 Section 09100 : Metal Support Systems
- .2 Section 09250 : Gypsum Board
- .3 Section 07900 : Sealants and Caulking
- .4 Section 06100 : Rough Carpentry
- .5 Section 09900: Painting

##### 1.3 INTENT

- .1 This specification is intended to generally outline the NUSTONE™ requirements, as they pertain to the overall project design. In all cases, the manufacturer's printed specifications and installation procedures shall govern the work of this section.

##### 1.4 RESPONSIBILITY

- .1 The Finish Carpentry Contractor shall install the work under this section and he will be responsible for co-ordinating the installation with other trades.

##### 1.5 SUBMITTALS

- .1 Submit to the architect a minimum of 3 – (7.6mmx7.6mm) (3" x 3") NUSTONE™ flat samples of each colour specified. These samples are for general appearance comparison only, as colour variations will occur within and between components.
- .2 Submit shop drawings for approval showing plans, sections, details, joint treatment, reinforcing, fastening methods and the relation of the NUSTONE™ components to the surrounding construction.

##### 1.6 MOCK-UP

- .1 Prior to production erect one proto-type on-site or at the National Form plant, for review by the architect. Once approved the prototype will establish the standards by which the work will be judged. Not included in the cost of the quotation.

**1.7 SUBSTITUTIONS**

- .2 Manufacturers desiring to submit proposals other than National Form shall, at least 10 days prior to the bid date, submit to the architect all descriptive information of the system. These manufacturers must have a minimum of five years experience with the system and provide photographs and shop drawings of at least three projects similar in detail and scope with names, addresses and phone contacts of the respective architects and installation contractors. Independent test data showing compliance with the specified system and three samples of similar details must also be submitted.

**2 PRODUCTS:**

**2.1 MANUFACTURER**

- .1 NATIONAL FORM Inc.  
530 Keele St. Unit 310  
Toronto, Ontario  
M6N 3C9 Canada  
Tel: (416) 604-2100 / 800-969-9202  
Fax: (416) 604-2344  
www.nationalform.com

**2.2 MATERIALS**

- .1 NUSTONE™ components shall be prefabricated with integrally pigmented high density gypsum and aggregates free of resin and asbestos, reinforced with continuous filament random glassfibre matt. Reinforcing is not permitted.
- .2 NUSTONE™ components shall be reinforced with steel or wood.
- .3 NUSTONE™ components are factory finished with a clear (non gloss) sealer.
- .4 No additives such as retards, accelerators or polymers are permitted.
- .5 Fabrications will be as per approved shop drawings and will not include assembly.

**2.3 TOLERANCES (FABRICATION)**

Dimensional – all directions	(3.2mm) (1/8”)
Thickness – skin	(3.2mm) (1/8”)
Thickness – total unit	(8mm) (5/16”)
Warpage or Bowing	(5.28mm/m) (1/16”/foot)

Site conditions and normal manufacturing variations may require additional site work to maintain these tolerances.

## 2.4 PHYSICAL PROPERTIES

Shell Thickness	(4.8mm-9.6mm) (3/16" – 3/8")
Weight (depending on reinforcing)	(12.3-24.5kg/sq. m.) (2-1/2 – 5 lbs/sq.ft)
Density	(1500-1590kg/cu. m.) (95 – 100 lbs/cu.ft.)
Bending Strength	(6.2 Mpa) (900 p.s.i.)
Compressive Strength	(22.1 Mpa) (3,200 p.s.i.)
Tensile Strength	(8.28 Mpa) (1,200 p.s.i.)
Impact Strength	(307 J/m) (5.76 ft. lb./in.)
Hardness – Barcol	74
Fibre Content	5 – 6% by weight
Fuel Contribution (ASTM E84)	0
Flame Spread (ASTM E84)	0
Smoke Index (ASTM E84)	< 5

## 2.5 INSPECTION

The Architect or his representative shall have access to the manufacturing facilities, either prior to contract award or thereafter, to inspect or verify compliance with the above specifications.

## 3.0 EXECUTION:

### 3.1 PRE-INSTALLATION RESPONSIBILITY

- .1 Field Measurements: Prior to manufacturing, the installer will be responsible for obtaining all field dimensions for inclusion on the manufacturer's shop drawings.
- .2 Co-ordination: The installer will be responsible for the co-ordination of the installation with related sections, within the tolerances specified in the respective articles.
- .3 Discrepancies: Prior to installation, the installer shall check job site dimensions and conditions. Any discrepancies between design and field dimensions shall be brought to the attention of the General Contractor and the Architect.
- .4 Material Quantities: The installer will be responsible to order the correct material quantities, allowing for waste.

### 3.2 DELIVERY, STORAGE, HANDLING AND PROTECTION

- .1 Transports and handle NUSTONE™ components in a manner that avoids excessive stresses or damage.
- .2 Components displaying obvious damage must be rejected at site at time of delivery.
- .3 Store the components in a controlled environment, weather protected, and on a level surface, with temporary supports as required. Do not stack or lean.

### **3.3 INSTALLATION**

- .1 Components shall be lifted/handled with suitable devices.
- .2 Components shall be installed plum and true. Shim where necessary.
- .3 Pre-drilled and countersink to (3.2mm) (1/8") minimum below finished surface of unit.
- .4 Fasten components with screws through face or back as indicated on shop drawings.
- .5 Adhere wall-cladding (veneer) panels to substrate as indicated on shop drawings.
- .6 Where components are suspended, use as a minimum 12 gauge steel wire and suspension points Indicated on the shop drawings.
- .7 Allowable variation in material thickness at surface suspension points shall not exceed ( $\pm 6.4\text{mm}$ ) ( $\pm 1/4"$ ).
- .8 Framing, hangers, etc. as specified elsewhere.
- .9 Butt joints are to be caulked (as specified under Sealants and Caulking) or grouted. (Matching grout as furnished by National Form.

### **3.4 PATCHING AND CONTROL JOINTS**

- .1 Introduce control joints as required (10m.) (35') O.C. under related section of Specification.
- .2 Patch countersunk fasteners and any damage to match component texture, using materials furnished by National Form.

### **3.5 CLEANING**

- .1 Clean NUSTONE™ surface with a water/soap solution and rinsing with a sponge. Excessive dirt can be removed with a multi-purpose spray cleaner such as 'Spray Nine'. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

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