

**PART 1 General****1.1 Summary**

- .1 Unless otherwise indicated, follow the standards below when specifying prefabricated unit paving. These standards are not intended to restrict or replace professional judgment.

**1.2 References**

- .1 Products and execution shall meet or exceed the most recent version of the following standards.
- .2 Canadian Standards Association (CSA)
  - .1 CAN/CSA A23.1 Concrete materials and methods of concrete construction.
  - .2 CAN/CSA A23.2 Test methods and standard practices for concrete.
  - .3 CAN/CSA A231.2 Precast Concrete Pavers.
  - .4 CAN/CSA A283 Qualification Code for Concrete Testing Laboratories
- .3 American Society for Testing and Materials (ASTM)
  - .1 ASTM C136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - .2 ASTM C979/C979M Standard Specification for Pigments for Integrally Colored Concrete.
- .4 Government of Quebec
  - .1 Bureau de normalisation du Québec (BNQ)
    - .1 NQ 2624-120 Pavé de béton préfabriqué.
- .5 Interlocking Concrete Pavement Institute (ICPI)

**1.3 Design Requirements**

- .1 When the paving pattern creates rows of pavers, these rows shall be perpendicular to the direction of circulation.
- .2 Prefabricated concrete units
  - .1 Colour shall be:
    - .1 “Charcoal” for main circulation ways.
    - .2 “Cinder Grey” for secondary or tertiary circulation ways, or secondary or tertiary gathering areas, seating areas or other such areas.
  - .2 Size shall be:
    - .1 300mm x 300mm for main and secondary circulation ways and main and secondary gathering areas, seating areas or other such areas.
    - .2 300mm x 150mm for tertiary circulation areas or circulation ways.
- .3 Prefabricated granite units

- .1 These shall only be used for the most high-profile locations on campus, subject to McGill's approval.

## **PART 2 Products**

### **2.1 General**

- .1 Cleaning Products and Sealant.
  - .1 Cleaning products and sealants for prefabricated units paving are not desirable.
- .2 Dimension tolerances
  - .1  $\pm 3$  mm in thickness, max.
  - .2  $\pm 2$  mm in length or width, max.

### **2.2 Prefabricated Concrete Units**

- .1 Concrete Properties
  - .1 Precast concrete units shall comply with the requirements of the CSA-A231.1 and the CSA-A231.2 standards, including:
    - .1 Compression resistance: 50 MPa min.
    - .2 Absorption: 5% max.
    - .3 Freeze/Thaw :
      - .1 225g/m<sup>2</sup> after 28 cycles, max.
      - .2 500g/m<sup>2</sup> after 49 cycles, max.
  - .2 Pigments used to colour concrete pavers: conforming to the ASTM C 979/C979M standard.
- .2 Vehicular areas
  - .1 In areas where vehicular traffic (regular or occasional) will occur:
    - .1 Pavers shall respect a 3:1 ratio (length vs. width).
    - .2 Pavers shall never have dimensions greater than 300 mm x 300 mm
    - .3 Pavers shall have a minimum thickness of 100 mm.
- .3 McGill Standard Collection
  - .1 Type 1
    - .1 Thickness : 100mm.
    - .2 Nominal dimensions :
      - .1 300mm x 300mm.
      - .2 150mm x 300mm.
    - .3 Shall be the following, or approved equivalent:
      - .1 « Boulevard TLI 100mm » as manufactured by Permacon.
        - .1 Colours :

- .1 Cinder Grey.
  - .1 This colour contributes to a reduction of heat island effect.
  - .2 Finish: Standard.
- .2 Charcoal.
  - .1 Finish: Standard. (or Grenart for accents)
- .4 Do not request to the general contractor the surplus for replacement.

### **2.3 Prefabricated Lattice Concrete Units**

- .1 Prefabricated lattice concrete units are not desirable as a prefabricated paving unit material.

### **2.4 Granite Units**

- .1 Granite Properties
  - .1 Refer to section **31 35 00** Natural Stone.
- .2 McGill Standard Collection
  - .1 Nominal dimensions
    - .1 300mm x 300mm.
    - .2 150mm x 300mm.
    - .3 A number of oversized pieces (such as 600mm x 300mm) should be planned, to avoid small pieces in awkward locations during installation.
  - .2 Thickness : 100mm.
  - .3 A 5mm chamfer is required on the edges of the top surface.

### **2.5 Limestone Units**

- .1 Limestone is not desirable as a prefabricated paving unit material.

### **2.6 Bedding material**

- .1 Refer to section **31 05 16** Aggregate Materials.

### **2.7 Joint sand**

- .1 Refer to section **31 05 16** Aggregate Materials.

### **2.8 Borders**

- .1 For unit paving installed on concrete slab, shall be either:
  - .1 Granite borders. Refer to section **31 35 00** Natural Stone.
  - .2 Angle bar: when a visible border is not desired, use a galvanized steel angle bar, 89mm x76mm x 6.4mm
- .2 ~~For unit paving installed on granular sub-base, shall be aluminium border such as StructureEdge, as manufactured by Pernaloc or approved equivalent.~~

**PART 3 Execution****.1 General**

- .1 Prefabricated unit pavings should be installed according to industry standards, on  $\pm 20\text{mm}$  of bedding material.
  - .1 Foundation shall include a concrete slab.
    - .1 Installation on a granular sub-base is only acceptable for low-traffic, pedestrian-only areas.
  - .2 Nominal dimensions shall be respected during installation. Contractor shall not abut paving units one against each other.
  - .3 Top edge of cut pavers shall have a new 5mm chamfer created. Contractor shall provide execution sample to ensure chamfer appearance is acceptable.
  - .4 Joint sand shall be installed without delay following paver installation, to avoid debris within the joints.

**PART 4 Related Technical Sections**

The technical sections of the McGill Building Design and Technical Standards should be consulted with the current document, most notably (but not limited to) the following:

Section Number	Title of Section
Special Building Areas	Landscape
31 05 16	Aggregate Materials
32 35 00	Natural Stone

**END OF SECTION**