

PART 1 - GENERAL

1.1 REFERENCES

- .1 Aluminum Association (AA)
 - .1 DAF 45-03, Designation System for Aluminum Finishes.
- .2 Canada Green Building Council (CaGBC)
 - .1 LEED Canada 2009 for Design and Construction-2010, LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.81-M90, Air Drying and Baking Alkyd Primer for Vehicles and Equipment.
 - .2 CAN/CGSB-1.88-92, Gloss Alkyd Enamel Air Drying and Baking.
 - .3 CAN/CGSB-1.104-M91, Semigloss Alkyd Air Drying and Baking Enamel.
 - .4 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction.
- .4 Ceilings and Interior Systems Construction Association (CISCA)
 - .1 Recommended Test Procedures for Access Floors - 2007.
- .5 Environmental Choice Program (ECP)
 - .1 CCD-046/UL 2762 - 11, Sustainability for Adhesives.
 - .2 CCD-126/UL 126 - 12, Standard for Sustainability for Plastic Film Products.
- .6 Green Seal Environmental Standards (GS)
 - .1 GS-36-11, Standard for Adhesives for Commercial Use.
- .7 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.

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- 1.1 REFERENCES .8 (Cont'd)
(Cont'd) .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- 1.2 ADMINISTRATIVE .1 Pre-installation Meetings: convene
REQUIREMENTS pre-installation meeting after Award of Contract and 1 week prior to commencing work of this Section to verify project requirements, substrate conditions and co-ordination with other building sub-trades, and to review manufacturer's written installation instructions.
.1 Convene pre-installation meeting 1 week prior to beginning work of this Section and on-site installation, in accordance with Section 01 31 19 - Project Meetings.
.2 Notify attendees 2 weeks prior to meeting and ensure meeting attendees include as minimum:
.1 Departmental Representative.
.2 Access flooring subcontractor.
.3 Manufacturer's Technical Representative.
.3 Ensure meeting agenda includes review of methods and procedures related to access flooring installation including co-ordination with related work.
.4 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within 1 week of meeting.
- 1.3 ACTION AND .1 Submit in accordance with Section 01 33 00 -
INFORMATIONAL Submittal Procedures.
.2 Product Data:
.1 Submit manufacturer's instructions, printed product literature and data sheets for access flooring and include product characteristics, performance criteria, physical size, finish and limitations.
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1.3 ACTION AND
INFORMATIONAL
(Cont'd)

- .2 Product Data:(Cont'd)
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements. Indicate VOC's:
 - .1 For caulking materials during application and curing.
 - .2 For adhesives.
 - .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador, Canada.
 - .2 Take measurements from finished area at site. Indicate where applicable information as follows:
 - .1 Layout of work.
 - .2 Sizes and details of components.
 - .3 Anchorage methods.
 - .4 Edge and fascia details.
 - .5 Lateral bracing.
 - .6 Typical cutout details.
 - .7 Floor finishes.
 - .3 Structural Computations:
 - .1 Submit data on earthquake resistance in the form of structural computations that have been signed and sealed by a qualified professional. Include structural computations, material properties and other information required for structural analysis and verifications that access flooring system will withstand earthquake loads indicated.
 - .4 Samples:
 - .1 Submit one full size sample consisting of 4 panels of complete access flooring system, including finishes.
 - .2 Submit one of each of following components.
 - .1 Full size floor panel.
 - .2 Pedestal.
 - .3 Stringer member.
 - .4 Fasteners.
 - .5 Cove base 300 mm long.
 - .6 Accessories.
 - .5 Manufacturers' Field Reports: submit copies of manufacturers field reports.
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1.3 ACTION AND
INFORMATIONAL
(Cont'd)

- .6 Test Reports: submit certified test reports from approved independent testing laboratories indicating compliance with specifications for specified performance characteristics and physical properties.
- .7 Certificates: submit certification, to demonstrate compliance of access flooring system to specification as follows:
 - .1 CSA or ULC certification.
 - .2 Independent testing agency test reports certifying that the product meets standard.
 - .3 Letter of certification from responsible official of manufacturer.
 - .4 Method for testing access flooring in accordance with Ceilings and Interior Systems Construction Association (CISCA) standard test procedures.
 - .1 Have tests performed by an independent testing laboratory regularly engaged in testing of access floor components.
- .8 Sustainable Design Submittals:
 - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.4 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: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Storage and Handling Requirements:
 - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect access flooring from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
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| <u>1.4 DELIVERY,
STORAGE AND
HANDLING
(Cont'd)</u> | <p>.4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.</p> <p>.5 Packaging Waste Management: remove for reuse or return of pallets, crates, padding, banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.</p> |
| <u>1.5 MAINTENACE</u> | <p>.1 Extra Materials:</p> <ul style="list-style-type: none">.1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals..2 Provide minimum of 2% of panels and under-structure for maintenance use. Store where directed..3 Maintenance material same production run as installed material. |

PART 2 - PRODUCTS

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| <u>2.1 SYSTEM
DESCRIPTION</u> | <p>.1 Design Requirements:</p> <ul style="list-style-type: none">.1 Modular system of interchangeable removable panels. Panel to be easily removed by a person with a supplied lifting device..2 Supports to allow adjusting height. Supports to provide leveling and locking height of components..3 Height to be as noted in the drawings..4 Pedestals: pedestal assembly to support a concentrated load of 22 kN without going out of alignment.<ul style="list-style-type: none">.1 Pedestals, when secured to subfloor, to resist a 0.09 kN force applied horizontally at top of pedestal..2 Ultimate load carrying capacity: not less than twice design strength..5 Stringers: |
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| <u>2.1 SYSTEM DESCRIPTION</u>
(Cont'd) | <p>.1 (Cont'd)</p> <p>.5 Stringers: (Cont'd)</p> <p>.1 Assembly to remain completely braced and rigid after a maximum of eight abutting panels are removed.</p> <p>.2 Stringers to support a mid-span force of 0.66 kN minimum.</p> <p>.6 Floor Panels:</p> <p>.1 Uniformly distributed load of 12 kPa minimum: maximum deflection of 1 mm.</p> <p>.2 Concentrated load of 4.4 kN applied over area of 25 x 25 mm at any location: maximum deflection of 2.54 mm.</p> <p>.3 Rolling load of 2.2 kN on 76 mm diameter caster with bearing area of 1.27 mm² anywhere on panel without damage maximum deflection of 2.54 mm.</p> <p>.4 Permanent deflection: 0.5 mm maximum at design load.</p> <p>.5 Ultimate strength of the panel: provide safety factor of 3.0 times its design load without failure.</p> <p>.7 Allowable Tolerances:</p> <p>.1 Flatness of floor panels: plus or minus 0.5 mm in any direction.</p> <p>.2 Surface Dimension: plus or minus 0.5 mm of all panels.</p> <p>.3 Finished floor level tolerance: plus or minus 3 mm for overall floor, and plus or minus 1 mm in 2000 mm in any direction.</p> <p>.4 Squareness: plus or minus 0.5 mm in surface dimension and 0.25 mm measured diagonally.</p> <p>.8 Fire Resistance:</p> <p>.1 Floor panels, less finished flooring: flame spread rating of 5; fuel contribution of 10 and smoke development of 15.</p> |
| <u>2.2 MATERIALS</u> | <p>.1 Pedestals: steel assembly with minimum 10,000 mm² base plate. Pedestal head formed steel. Threaded supporting rod and vibration-proof lock nut to permit 38 mm OR 25 mm adjustment. Manufacturer's standard finish.</p> |

2.2 MATERIALS
(Cont'd)

- .2 Panels:
 - .1 Cementitious core steel floor panel: reinforced steel top plate, bottom plate filled with cementitious silicate compound, 610 mm x 610 mm size panel, edge trim for applied resilient finish flooring.
- .3 Finish flooring:
 - .1 Linoleum flooring, cut in tiles to match the size of flooring panels. Adhere in place in accordance with Section 09 65 16 - Resilient Sheet Flooring.
- .4 Stringers:
 - .1 Stringers: steel tube sections, manufacturer's standard finish, screw lock type. Stringers to support each edge of panel.

2.3 ACCESSORIES

- .1 Panel lifting device: 2 per enclosed area, manufacturer's standard equipment, type recommended for each panel type. Include wall mounting bracket for panel lifter.
- .2 Adhesives: type as recommended by manufacturer of material to be bonded.
 - .1 Adhesives: VOC limit maximum to SCAQMD Rule 1168.
- .3 Cable cutout protection: extruded polyvinyl chloride or neoprene edging.
- .4 Access grommets: sized to suit power and communication outlets minimum 150 mm diameter.

2.4 FINISHES

- .1 Aluminum finishes:
 - .1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.
 - .1 Clear anodic finish: designation AA-M10C10A41.
 - .2 Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.

2.4 FINISHES
(Cont'd)

- .2 Metal finishes:
 - .1 Steel components:
 - .1 Exposed steel components:
thoroughly clean surfaces, spray apply 1 coat CAN/CGSB-1.81 primer and two coats CAN/CGSB-1.104 type 2 semi-gloss paint, colour selected by Departmental Representative. Individually bake each coat.
 - .2 Concealed steel components: 1 coat CAN/CGSB-1.81 baked primer.
 - .3 Paint and primer: VOC limit maximum to SCAQMD Rule 1113.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for access flooring installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 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.

3.3 INSTALLATION

- .1 Install components in accordance with system manufacturer's written recommendations.

3.3 INSTALLATION
(Cont'd)

- .2 Pedestals and stringers:
 - .1 Arrange pedestal assemblies to meet grid spacing required.
 - .2 Bond pedestals base plate to structural floor with adhesive. Secure base plate to concrete floor with power activated fasteners after adhesive has cured.
 - .3 When adhesive is cured no bond impairment acceptable when 178 N horizontal force is applied to 300 mm high pedestals.
 - .1 Install additional pedestal assemblies where grid pattern is disturbed by columns, walls, ramps, openings, and steps, and at cut-outs that impair floor load capacity.
 - .4 Install stringers rigidly brace floor pedestals four ways.
- .3 Floor panels:
 - .1 Install floor panels and floor finish solidly on pedestals, level to maximum variation over entire floor of 1:2000.
 - .2 Seal field cuts with plastic angles or channels. No exposed cut edges permitted.
 - .3 Allow for cutting holes in floor panels for installation of computer equipment and air conditioning units. Include cable protection edging or sheet. Coordinate with Division 26, Electrical.
 - .4 Provide floor, complete with necessary edge trims, end closures and lateral bracing at step edges and other locations where pedestal is not braced four ways.
- .4 Fascia panels:
 - .1 Install fascia panels at exposed sides.
 - .2 Secure panels to continuous angles mechanically secured to structural floor and to edge of floor panels.
 - .3 Install metal trim at intersection of fascia panels and access floor and at abutting walls and columns.
- .5 Adhere base to wall at intersection of walls and access floor panels.
- .6 Adjust floor panel system for smooth, quiet operation.

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- 3.4 FIELD QUALITY CONTROL .1 Manufacturer's Field Services:
- .1 Have manufacturer of products supplied under this Section review Work involved in handling, installation/application, protection and cleaning of its products, and submit written reports in acceptable format to verify compliance of Work with Contract.
 - .2 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
 - .3 Schedule site visits to review Work at stages listed:
 - .1 After delivery and storage of products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.
 - .2 Upon completion of Work, after cleaning is carried out.
 - .4 Obtain reports within 3 days of review and submit.
- 3.5 CLEANING .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
- .1 Leave Work area clean at end of each day.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean surfaces after installation using manufacturer's recommended cleaning procedures.
 - .2 Clean aluminum with damp rag and approved non-abrasive cleaner.
 - .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
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- 3.6 PROTECTION .1 Protect installed products and components
from damage during construction.
.1 Protect finished access floor.
- .2 Repair damage to adjacent materials caused by
access flooring installation.

