

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 01 00 10 General Requirements.
- .2 Section 01 35 43.10 Carpet Reclamation

1.2 REFERENCES

- .1 American Association of Textile Chemists and Colorists (AATCC)
 - .1 AATCC Test Method 16-2004, Colorfastness to Light.
 - .2 AATCC Test Method 23-2005, Colorfastness to Burn Gas Fumes.
 - .3 AATCC Test Method 129-2005, Colourfastness to Ozone in the Atmosphere Under High Humidities.
 - .4 AATCC Test Method 134-2006, Electrostatic Propensity of Carpets.
 - .5 AATCC Test Method 171-2005, Carpets: Cleaning of; Hot Water Extraction Method.
 - .6 AATCC Test Method 175-2008, Stain Resistance: Pile Floor Coverings.
 - .7 AATCC Test Method 189-2007, Fluorine Content of Carpet Fibers.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.129-93(R1997), Carpets for Commercial Use.
- .3 Carpet and Rug Institute (CRI)
 - .1 CRI Carpet Installation Standard 2009.
 - .2 CRI Green Label Indoor Air Quality Testing Program.
 - .3 CRI Green Label Plus Indoor Air Quality Testing Program.
- .4 Environmental Choice Program (ECP)
 - .1 CCD-152-2009, Flooring Products, Commercial Non-modular Textile Flooring.
- .5 Health Canada
 - .1 C.R.C., c.923-10, Hazardous Products Act - Carpet Regulations, Part II of Schedule 1.
- .6 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .7 National Floor Covering Association (NFCA)
 - .1 National Floor Covering Specification Manual 2007.
- .8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .9 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S102-07, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

- .2 CAN/ULC-S102.2-07, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting 1 week prior to beginning on-site installation, with Contractor's Representative, Departmental Representative and Consultant to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other construction subtrades.
 - .4 Review manufacturer's written installation instructions and warranty requirements.
- .2 Sequencing: sequence with other work. Comply with manufacturer's written recommendations for sequencing construction operations.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for each carpet tile, undercushion, adhesive, subfloor patching compound and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Shop Drawings:
 - .1 Information on shop drawings to indicate:
 - .1 Nap: direction, open edges, special patterns.
 - .2 Cutouts: show locations where cutouts are required.
 - .3 Edgings: show location of edge moldings and edge bindings.
- .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate samples of each type of carpet tile specified and duplicate tiles for each colour selected.
- .5 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .6 Test and Evaluation Reports:
 - .1 Certified test reports showing compliance with specified performance characteristics and physical properties.
- .7 Manufacturer's Instructions: submit manufacturer's installation and storage instructions.
- .8 Manufacturers Reports:

- .1 Manufacturer's Field Reports: submit manufacturer's written reports within 3 days of review, verifying compliance with specifications.
- .9 Sustainable Design Submittals:
 - .1 Low-Emitting Materials:
 - .1 Submit listing of adhesives used in building, showing compliance with VOC and chemical component limits or restriction requirements.
 - .2 Submit listing of carpet , carpet backer and adhesive used in building, showing compliance with CRI Indoor Air Quality Test Program.
- .10 Qualification Statements:
 - .1 Compliance: to CAN/ULC-S102
 - .2 Testing: passes testing requirements of:
 - .1 Green Label Indoor Air Quality Testing Program.
 - .3 Tuft bind: meets requirements of CAN/CGSB-4.129 when tested to CAN/CGSB-4.2 No.77.1.

1.5 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for installed products for incorporation into manual.
- .3 Warranty Documentation: submit warranty documents specified.
- .4 Carpet Reclamation:
 - .1 Co-ordinate carpet reclamation in accordance with Section 01 35 43.10 - Carpet Reclamation.
 - .2 Schedule of carpet reclamation activities indicating following:
 - .1 Detailed sequence of removal work.
 - .2 Inventory of items to be removed and reclaimed.
 - .3 Proposed packing and transportation measures.
 - .3 Reclamation agencies' records indicating receipt and disposition of used carpet.
 - .4 Certification: Reclamation Agency to verify in writing that used carpet was removed and recycled in accordance with carpet manufacturers' reclamation program.
 - .1 Record off-site removal of debris and materials and provide following information regarding removed materials.
 - .1 Time and date of removal.
 - .2 Type of material.
 - .3 Weight and quantity of materials.
 - .4 Final destination of materials.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- .1 Extra stock materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Section 01 78 00 - Closeout Submittals.
 - .1 Quantity: provide minimum 2% of:
 - .1 Carpet tile and Adhesives.

- .2 Delivery, storage and protection : comply with Owner's requirements for delivery and storage of extra materials.

1.7 QUALITY ASSURANCE

- .1 Regulatory Requirements:
 - .1 Prequalification: compliance with Health Canada regulations under "Hazardous Products Act", Part II of Schedule 1, to CAN/CGSB-4.2 No. 27.6.
- .2 Qualifications:
 - .1 Manufacturer: capable of providing field service representation during construction and approving application method.
 - .2 Flooring Installer:
 - .1 Experienced in performing work of this Section who has specialized in installation of work similar to that required for this project.
 - .2 Certified by carpet manufacturer prior to bid submission.
 - .3 Must not sub-contract labour without written approval of Departmental Representative.
 - .4 Responsible for proper product installation, including floor testing and preparation as specified and in accordance with carpet manufacturer's written instructions.

1.8 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 materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
 - .3 Store and protect carpet tile and adhesive in original containers or wrapping with manufacturer's seals and labels intact.
 - .4 Store and protect carpet tile and accessories in location as directed by Departmental Representative.
 - .5 Store carpet and adhesive at minimum temperature of 18 degrees C and relative humidity of maximum 65% for minimum of 48 hours before installation.
 - .6 Prevent damage to materials during handling and storage. Keep materials under cover and free from dampness.
 - .7 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.
 - .8 Replace defective or damaged materials with new.

1.9 SITE CONDITIONS

- .1 Ambient Conditions:

- .1 Relative humidity: maintain between 10% and 65% for 48 hours before, during and 48 hours after installation.
- .2 Ventilation:
 - .1 Departmental Representative will co-ordinate operation of ventilation system during installation of carpet. Ventilate area of work as directed by Departmental Representative.
 - .2 Ventilate enclosed spaces in accordance with Section 01 51 00 - Temporary Utilities. Provide fans with HEPA filters.
 - .3 Provide continuous ventilation during and after carpet application. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of carpet installation.
- .3 Install carpet after space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete.

1.10 WARRANTY

- .1 Manufacturer's warranty: submit, for Departmental Representative's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and does not limit other rights Owner may have under Contract Documents.
- .2 Warranty period: 1 year, commencing on date of substantial performance of work.
 - .1 Warranty covers labour, repair or replacement of defective components for 1 year after date of substantial performance.

Part 2 Products

2.1 MATERIALS

- .1 Manufacturers:
 - .1 Ensure manufacturer has experience in manufacturing components similar to or exceeding requirements of project.
- .2 Description:
 - .1 Adhesives: VOC limit 50 g/L maximum to SCAQMD Rule 1168 and GS-36.
 - .2 Primer: in accordance with manufacturer's recommendations for surface conditions:
 - .1 VOC limit: 100 g/L maximum to SCAQMD Rule 1113
 - .3 Carpet and Accessories:
 - .1 Green Label Plus certified.
 - .2 24.8% minimum – 19.2% Post-industrial, 5.6% Post-consumer recycled content.

2.2 PERFORMANCE

- .1 Flammability: certified for flammability to Health Canada regulations under "Hazardous Products - Carpet Regulations", Part II of Schedule 1.
- .2 Flame Spread: Passes CPSC FF 1-70 per ASTM D-2859
- .3 Smoke Development: 450 or less per ASTM E662.

- .4 Wear: maximum 10% of pile face fiber by weight for 15 years.
- .5 Edge Ravel: none for 15 years.
- .6 Static Generation: less than 2.0 kV per AATCC 134.
- .7 Stain resistance: to AATCC 175
- .8 Colourfastness to light: AATCC 16.
- .9 Indoor Air Quality Certification: certified to CRI Green Label Plus IAQ requirements.

2.3 FABRICATION

- .1 Face construction:
 - .1 Stratatec Patterned Loop
- .2 Pile fibre: to CAN/CGSB-4.129.
 - .1 Nylon:BCF nylon, with a modification ratio no greater than 2.2
- .3 Kilotex – min 11.4
- .4 Dyeing Method – 75% solution dyed, 25% yarn dyed
- .5 Product Size - 91.44 cm x 91.44 cm
 - Stitches: 39.4 pu/10 cm
- .6 Gauge: 50.4 rows/10cm
- .7 Pile Weight Density: 243.3 kg/cu m
- .8 Finished Pile Height: minimum 4.7 mm.
- .9 Surface Pile Weight: minimum 644.1 g/sq m

2.4 TILE CUSHION BACKING

- .1 Density: Closed cell cushion – Fiberglass Reinforced – 296 kg/cu m
- .2 Compression deflection, minimum: 352 min. to 1758 max. grams/sq. cm @ 25% deflection.
- .3 Compression set at 10%, maximum to ASTM D3574.
- .4 Cushion Thickness min 4.0 mm

2.5 ACCESSORIES

- .1 Adhesive:
 - .1 Pressure Sensitive Water based Type: recommended by carpet tile manufacturer for direct glue down installation of speciality backed carpet tiles.
- Floor Type Transition Mouldings:
- .2 Carpet edge / reducer strip: anodized aluminum.

Part 3 Execution

3.1 INSTALLERS

- .1 Use experienced and qualified technicians to carry out assembly and installation of tile carpet.

3.2 EXAMINATION

- .1 Examine conditions, substrates and work to receive work of this Section.
- .2 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for carpet tile installation in accordance with manufacturer's written instructions.
 - .1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.3 PREPARATION

- .1 Subfloor Preparation:
 - .1 Inspect subfloor and determine special care required to make it a suitable for carpet.
 - .2 Fill and level cracks 3 mm wide or protrusions over 0.8 mm with appropriate and compatible latex patching compound.
 - .3 Comply with manufacturer's written recommendations for maximum patch thickness.
 - .4 Prime large patch areas with compatible primer.
- .2 Surface Preparation: prepare surface in accordance with manufacturer's written recommendations.
 - .1 Prepare floor surfaces in accordance with CRI Carpet Installation Standard.
- .3 Tile Carpeting Preparation:
 - .1 Pre-condition carpeting: following manufacturer's written instructions.
- .4 Demolition / Removal:
 - .1 Remove and divert carpet tile for reuse or recycling and reclamation in accordance with 01 35 43.10 - Carpet Reclamation. Co-ordinate with Departmental Representative.
 - .2 Remove and stockpile carpet tile (where indicated on plans) for removal by Departmental Representative.
 - .3 Vacuum used carpet before removal.
 - .4 Maintain possession of removed used carpet.
 - .5 Remove used tiles and pack in container. Use effective packing techniques to maximize amount of material in container.
 - .6 Sort only clean, dry carpet tiles for reclamation. Clean is defined as carpet free from demolition debris, asbestos contamination, garbage, knife blades and tack strips.
 - .7 Carpet undercushion: provide recycling of carpet padding where locally available or as designated by carpet reclamation program.

3.4 INSTALLATION

- .1 Install carpet tiles in accordance with manufacturer's written instructions, and CRI Carpet Installation Standard and co-ordinate with Section 01 73 00 - Execution.

- .2 Co-ordinate tile carpeting work with work of other trades, for proper time and sequence to avoid construction delays.
- .3 Install carpet tile after finishing work is completed but before demountable office partitions and telephone and electrical pedestal outlets are installed.
- .4 Install carpet tile as per manufacturer's recommendation. This can include quarter-turn 90 degree format, monolithic, random, quarter turn ashlar, horizontal, herringbone or vertical ashlar.
- .5 Snugly join carpet tiles in completed installation.
 - .1 Measure distance covered by 11 carpet tiles (10 joints) and ensure distance is in compliance with manufacturer specifications.
 - .2 Do not trap yarn between carpet tiles.
- .6 Apply thin film of pressure-sensitive adhesive according to manufacturer's recommendations.
- .7 Ensure finished installation presents smooth wearing surface free from conspicuous seams, burring and other faults.
- .8 Use material from same dye lot.
 - .1 Ensure colour, pattern and texture match within visual areas.
 - .2 Maintain constant pile direction.
- .9 Fit around architectural, mechanical, electrical and telephone outlets, and furniture fitments, around perimeter of rooms into recesses, and around projections.
- .10 Install carpet tiles to underfloor duct system and to access covers.
- .11 Install carpeting in pan type floor access covers.
- .12 Extend carpet tiles into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- .13 Install carpet tiles smooth and free from bubbles, puckers, and other defects.
- .14 Protect exposed carpet tile edges at transition to other flooring materials with suitable transition strips.

3.5 SITE QUALITY CONTROL

- .1 Manufacturer's Field Services:
 - .1 Have manufacturer 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 Manufacturer's field services: 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:
 - .1 After delivery and storage of products, and when preparatory Work, or other Work, on which the Work of this Section depends, is complete but before installation begins.
 - .2 Twice during progress of Work at 25% and 60% complete.
 - .3 Upon completion of Work, after cleaning is carried out.
 - .4 Obtain reports within 3 days of review and submit immediately to Departmental Representative.

3.6 CLEANING

- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
 - .1 Vacuum carpets clean immediately after completion of installation.

3.7 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Prohibit traffic on carpet for period of 24 hours minimum after installation and until adhesive is cured.
- .3 Install carpet protection to satisfaction of Departmental Representative.
- .4 Repair damage to adjacent materials caused by tile carpeting installation.

END OF SECTION