

**PART 1 General**

**1.01 REFERENCES**

- .1 American Association of Textile Chemists and Colorists (AATCC).
  - .1 AATCC 118-2013. Oil Repellency: Hydrocarbon Resistance Test.
  - .2 AATCC 134-2011. Electrostatic Propensity of Carpets.
  - .3 AATCC 138-2014. Cleaning: Washing of Textile Floor Coverings.
  - .4 AATCC 171-2014. Carpets: Cleaning of; Hot Water Extraction Method.
  - .5 AATCC 174-2011. Antimicrobial Activity Assessment of New Carpets.
  - .6 AATCC 189-2012. Fluorine Content of Carpet Fibers.
- .2 American Society for Testing and Materials International (ASTM).
  - .1 ASTM E648-15e1. Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
  - .2 ASTM E662-15a. Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
- .3 Carpet and Rug Institute (CRI).
  - .1 CRI 104- Sept 2015. Standard for the Installation of Commercial Carpet.
  - .2 CRI Indoor Air Quality "Green Label + Plus" Testing Program - Carpet Criteria - 2016.
- .4 Underwriters' Laboratories of Canada (ULC).
  - .1 CAN/ULC-S102.2-10. Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

**1.02 SCHEDULING**

**1.03 SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit product data sheets for each carpet tile, adhesive and subfloor patching compound. Indicate physical and performance characteristics, sizes, patterns, colours, and methods of installation.
- .3 Submit MSDS - Material Safety Data Sheets for carpet adhesive and seam adhesive. Indicate VOC content.
- .4 Submit shop drawings. Indicate nap direction, open edges, special patterns, and other details required by Consultant to clarify work. Submit drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required as well as direction of carpet pile and pattern. Indicate location of edge mouldings and edge bindings.
- .5 Provide samples.
  - .1 Submit three 600 x 600 mm sample pieces of each type, pattern and colour of carpet specified.
  - .2 Submit 300 mm long sections of trim mouldings.
- .6 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals. Submit maintenance data including maintenance procedures,

recommendations for maintenance materials and equipment, and suggested schedule for cleaning.

- .7 Submit Test reports for each Carpet as follows:
  - .1 Submit test reports to demonstrate compliance with all specified standards.
  - .2 Submit certificates to demonstrate compliance with CAN/ULC-S102.2.
  - .3 Submit test report to confirm compliance with ASTM E648 and E662.
  - .4 Submit test reports to verify that tuft bind meets specified requirements.
  - .5 Submit proof that carpet has been tested and passed the CRI Indoor Air Quality Green Label Testing Program.
- .8 Submit manufacturer's installation instructions. Indicate special procedures and perimeter conditions requiring special attention.

#### **1.04 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Label packaged materials. For carpet tile products indicate nominal dimensions of tile and indicate installation direction.
- .3 Store packaged materials in original containers or wrapping with manufacturer's seals and labels intact.
- .4 Store carpeting and accessories in location as directed by Consultant. Store carpet and adhesive at minimum temperature of 18 degrees C and relative humidity of maximum 65% for minimum of 48 hours before installation. Store materials in area of installation for minimum period of 48 hours prior to installation.
- .5 Prevent damage to materials during handling and storage. Keep materials under cover and free from dampness.
- .6 Store carpet tiles on pallet as supplied by Manufacturer. Do not stack pallets.
- .7 Waste Management and Disposal. Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal. Remove from site and dispose of packaging materials at appropriate recycling facilities.

#### **1.05 ENVIRONMENTAL REQUIREMENTS**

- .1 Maintain air temperature and structural base temperature at flooring installation area above 20 degrees for 48 hours before, during and 48 hours after installation.
- .2 Ensure substrate is within moisture limits and alkalinity limits prescribed by manufacturer. Prepare moisture testing and provide report to Consultant.
- .3 Maintain relative humidity between 10 and 65% RH for 48 hours before, during and 48 hours after installation.
- .4 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.
- .5 Ventilate area of work as directed by Consultant by use of approved portable supply and exhaust fans. Provide continuous exhaust 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.

- .6 Do not install carpet until wet or dusty work in space is completed and nominally dry. Do not commence installation until work above ceilings is complete.

## **PART 2 Products**

### **2.01 CARPET - GENERAL REQUIREMENTS**

- .1 The following are applicable to all carpets.
- .2 Provide products that are certified to the CRI Green Label Plus program.
- .3 Provide products that incorporate permanent soil resistant treatment. Minimum 350 ppm fluorine. Fluorine Durability Level to AATCC 189. Drop oil and soil resistance to AATCC 118.
- .4 Provide products that incorporate permanent stain resistance. Topical treatments are not acceptable. Provide stain resistance for the life of the carpet, prewash test AATCC 138 for 5 washings, stain resistance to AATCC 175, level 8.
- .5 Provide products that incorporate permanent static control. Topical static treatments are not acceptable. Provide static resistance for life of carpet. Apply cleaning test to AATCC 138 or hot water extraction to AATCC 171 prior to static testing. Do static testing to AATCC 134, 3000V maximum at 20 % RH and 22 degrees C.
- .6 Provide products that incorporate permanent anti-microbial properties meeting AATCC 174: 99% reduction, 0% growth.
- .7 Provide carpets meeting the requirements of ASTM E648 for flammability and ASTM E662 for Smoke developed.
- .8 Dye Lot: minimum 1000 square meters with no visual difference in side and end uniformity.

### **2.02 CARPET TILES**

- .1 **Type CPT 1:** Premium carpet tile.
  - .1 Tile size: 250 x 1000 mm.
  - .2 Yarn manufacturer: Aquafil.
  - .3 Yarn: 100% recycled content Nylon Type 6.
  - .4 Colour: 100 % solution dyed.
  - .5 Primary backing: GlasBac.
  - .6 Construction type: tufted textured loop.
  - .7 Pile thickness: 0.100 inches. 2.5 mm
  - .8 Pile density: 6480.
  - .9 Recycled content: 62 %.
  - .10 IAQ: CRE Green Label Plus.
  - .11 Acceptable Material: On Line. Colour: 105269 Marigold by Interface.
- .2 **Type CPT 2:** Premium carpet tile.
  - .1 Tile size: 500 x 500 mm. cut to 2 pieces 250 x 500 mm
  - .2 Yarn manufacturer: Universal.
  - .3 Yarn: post consumer recycled content Nylon Type 6.6.
  - .4 Colour: 100 % solution dyed.
  - .5 Primary backing: GlasBac RE.
  - .6 Construction type: tufted textured loop.

- .7 Pile thickness: 0.101 inches. 2.6 mm
  - .8 Pile density: 6416.
  - .9 Recycled content: 69 %. 34 % post consumer.
  - .10 IAQ: CRE Green Label Plus.
  - .11 Acceptable Material: Viva Colores. Colour: 101180 Plateado by Interface.
- .3 **Type CPT 3:** Premium carpet tile.
- .1 Tile size: 250 x 1000 mm.
  - .2 Yarn manufacturer: Aquafil.
  - .3 Yarn: 100% recycled content Nylon Type 6.
  - .4 Colour: 100 % solution dyed.
  - .5 Primary backing: GlasBac RE.
  - .6 Construction type: tufted pattern loop.
  - .7 Pile thickness: 0.202 inches. 5.1 mm.
  - .8 Pile density: 5168.
  - .9 Recycled content: 81 %. 35 % post consumer.
  - .10 IAQ: CRE Green Label Plus.
  - .11 Acceptable Material: Human Nature. Colour 104214 Nickel by Interface.
- .4 **Type CPT 4:** Premium carpet tile.
- .1 Tile size: 500 x 500 mm. Cut to 2 pieces 250 x 500 mm.
  - .2 Yarn manufacturer: Aquafil.
  - .3 Yarn: 100% recycled content Nylon Type 6.
  - .4 Colour: 100 % solution dyed.
  - .5 Primary backing: GlasBac RE.
  - .6 Construction type: tufted textured loop.
  - .7 Pile thickness: 0.119 inches. 3.0 mm
  - .8 Pile density: 7261.
  - .9 Recycled content: 80 %. 35 % post consumer.
  - .10 IAQ: CRE Green Label Plus.
  - .11 Acceptable Material: Monochrome. Colour: 101834 Felt by Interface.
- .5 **Type CPT 5:** Premium carpet tile.
- .1 Tile size: 250 x 1000 mm.
  - .2 Yarn manufacturer: Aquafil.
  - .3 Yarn: 100% recycled content Nylon Type 6.
  - .4 Colour: 100 % solution dyed.
  - .5 Primary backing: GlasBac.
  - .6 Construction type: tufted textured loop.
  - .7 Pile thickness: 0.100 inches. 2.5 mm
  - .8 Pile density: 6480.
  - .9 Recycled content: 62 %.
  - .10 IAQ: CRE Green Label Plus.
  - .11 Acceptable Material: On Line. Colour: 105266 Aquamarine by Interface.

## 2.03 ACCESSORIES

- .1 Seaming sealer adhesive: type recommended by carpet manufacturer for purpose intended.
- .2 Adhesive: Pressure sensitive type: recommended by carpet manufacturer for direct glue down installation of carpet tiles.
- .3 Carpet protection: non-staining heavy duty kraft paper or 0.15 mm thick polyethylene.
- .4 High strength sub-floor filler and leveller: 2 part, latex modified, portland cement mortar requiring no water to produce cementitious paste. As recommended by manufacturer for use with their product. Minimum compressive strength of 25 MPa.
- .5 Metal edge strips: polished stainless steel with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.

## PART 3 Execution

### 3.01 MANUFACTURER'S INSTRUCTIONS

- .1 Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and datasheet.

### 3.02 PREPARATION

- .1 Test sub floor for moisture content in accordance with manufacturer's instructions using the Vaprecision vapour emission test. Perform moisture condition test in each major area. A minimum of 1 test per 93 square meters, prior to installation. Moisture condition shall not exceed 1.6 kg per 93 square meters per 24 hour day in accordance with manufacturer's recommendations. Provide test results for each space to Consultant.
- .2 Do not proceed with work until results of moisture condition tests are acceptable.
- .3 Inspect concrete floors to determine special care required to make it a suitable foundation for carpet. Fill cracks 3 mm wide or protrusions over 0.8 mm.
- .4 Concrete substrates shall be cured, clean and dry.
- .5 Clean concrete substrates free of paint, dirt, grease, oil, curing or parting agents, and other contaminants, including sealers, that may interfere with the adhesive.
- .6 Wherever a powdery or porous concrete surface is encountered, apply a primer that is compatible with the adhesive to provide a suitable surface for carpet installation.

### 3.03 SUBFLOOR TREATMENT

- .1 Remove sub-floor ridges and bumps by scraping and grinding
- .2 Clean floor and apply filler. Fill low spots, cracks, joints, holes and other defects with sub-floor filler to achieve floor level to a tolerance of 1:500. Trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry. Do not exceed manufacturer's recommendations for patch thickness.
- .3 Clean and prepare all joints in floors to receive joint sealants. Prepare joints in accordance with manufacturers written instructions. Apply coating of primer to all joints. Mix and apply sealants in accordance with manufacturers written instructions.
- .4 Prepare floor surfaces in accordance with CRI 104 - Standard for Installation of Commercial Carpet.
- .5 Vacuum clean all floor surfaces. Wet mop as recommended by manufacturer to obtain clean, dust free surfaces.

**3.04 INSTALLATION**

- .1 Provide a high ventilation rate, with maximum outside air, during installation and for 48 to 72 hours after installation. Where possible, provide additional fans to vent directly to the outside. Maintain extra ventilation for as long as practical and to approval of Consultant. Do not let contaminated air recirculate through a district or whole building air distribution system.
- .2 Pre-condition carpeting following manufacturer's printed instructions. Unpack carpet to off gas for minimum of 72 hours. Provide letter of compliance to Consultant.
- .3 Install carpeting tiles using minimum of pieces.
- .4 Install in accordance with manufacturer's printed instructions and in accordance with Carpet and Rug Institute Standard for Installation of Commercial Carpet, CRI 104.
- .5 Install carpet after finishing work is completed.
- .6 Finish installation to present smooth wearing surface free from conspicuous seams, burring and other faults.
- .7 Use material from same dye lot. Ensure colour, pattern and texture match within any one visual area. Maintain constant pile direction.
- .8 Fit neatly around architectural, mechanical, electrical and telephone outlets, and furniture fittings, around perimeter of rooms into recesses, and around projections.
- .9 Install carpeting to access covers. Install carpeting in pan type floor access covers.
- .10 Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- .11 Install carpet smooth and free of bubbles, puckers, and other defects.

**3.05 CARPET TILE INSTALLATION**

- .1 Apply adhesive and install carpet tiles in accordance with manufacturer's written instructions.
- .2 Install carpet without additional application of adhesive.
- .3 Lay carpet tiles with butt seams.
- .4 Roll carpet tiles with appropriate roller for complete contact of carpet to sub-floor.
- .5 Seal edges of cut-outs to carpet manufacturer's recommendations.
- .6 Carpet visibility of seams and joints to acceptable industry standards.

**3.06 CLEANING AND PROTECTION**

- .1 Remove excess adhesive from floor and wall surfaces without damage.
- .2 Vacuum carpets clean immediately after completion of installation. Protect traffic areas.
- .3 Prohibit traffic on carpet for a period of 24 hours until adhesive is cured.
- .4 Install carpet protection to satisfaction of Consultant.

**END OF SECTION**