

APPENDIX M - SECTION 09680 - CARPET SPECIFICATION GUIDE

PART 1 - GENERAL

1. Description

1.1. Generally, this section includes the specifications and procedures for providing and installing commercial-grade carpet materials. The materials include roll goods and modular tiles, commercial grade special detached cushion padding, and installation products and accessories manufactured by the carpet materials manufacturer, or recommended by the carpet materials manufacturer for use with the intended carpet materials.

1.2. The extent of carpet work is indicated on the contract documents, drawings, room finish schedules, and as required in this specification section.

1.3. Tack-less, stretch-in, Powerbond RS or direct glue may be used to install commercial grade carpet, commercial special detached cushion padding and carpet manufacturer and/or installation contractor supplied accessories.

2. Related Documents

- A. Division 1, Section 013300 - Submittals
- B. Division 1, Section 01600 - Product Requirements
- C. Division 2, sections Selective Demolition and Selective Demolition for Interiors for removing existing floor coverings
- D. Division 9, Section titled Resilient Wall Base and Accessories for resilient wall base and accessories installed with carpet
- E. Division 9, Section 09685 - Carpet Installation

3. References

- A. Americans with Disabilities Act (ADA), 1990
- B. Scope and technical requirements as illustrated in American National Standards Institute (ANSI) A117.1
- C. Carpet and Rug Institute (CRI) 104 - 1996, Standard for Installation of Commercial Carpet
- D. Minnesota State Building Code, 2000 edition
- E. Uniform Building Code, 2000 edition
- F. Uniform Fire Code, 1997 edition
- G. University of Minnesota 2002 Standards and Procedures for Construction

4. Definitions and Standards

A. Carpet: Carpet materials, including roll goods and modular tiles, intended for use in commercial and public spaces with construction, accessibility, fire/life safety ratings, static control and appearance appropriate for this use

B. Carpet Cushion: Detached synthetic rubber or urethane carpet cushion that meets the appropriate minimum standards set by current federal standards

5. Submittals

5.1. Submit all requested items according to Conditions of the Contract, and administrative procedures and instructions for submittals provided in Document 01300 - Submittals.

5.2. Submit the following items:

A. The manufacturer's written data on physical characteristics, durability and fade resistance. Completed carpet cushion data sheets, using sample format provided at the end of this section, for each type of carpet and carpet cushion material proposed

B. The manufacturer's written installation recommendations for each type of substrate required

C. Samples for verification of all carpet and carpet cushion products in the manufacturer's standard sizes, showing the full range of color, texture and pattern variations expected

D. The manufacturer's maintenance data for each product proposed, including recommended cleaning and stain removal methods, maintenance frequency, precautions for cleaning materials/methods that could damage finishes and performance

E. The manufacturer's signed warranty as required under Article 1.07 of this section for all proposed products

F. Test Reports: When specifically requested by the architect of record or the University of Minnesota, provide certified test reports prepared by an independent testing laboratory that proves conformance with specified standards required by this specification.

5.3. Provide Contract Shop Drawings that indicate the following:

A. Extent, condition and types of substrate over which products will be installed

B. Extent of existing flooring materials to be removed, and existing flooring materials to remain

C. Type/method of intended installation

D. Extent of each type of carpet, color and dye lot

E. Location of different colors and patterns, including insets and borders

F. Type of seams, patterns, repeat size, location, direction and starting point

- G. Special notes on required cutouts and other special installation conditions or methods
- H. Direction of pile
- I. Carpet joint details at columns, doorways, walls and partitions, built-in cabinets and furniture, access doors, expansion joints and similar conditions, and unique edges
- J. Extent of each type of carpet cushion
- K. Type, color and location of edge, transition and other accessory strips
- L. Type, color, location and height of base, including serged edge carpet when used as wall base

5.4. When specifically requested by the architect of record or the University of Minnesota, submit samples for verification of proposed carpet and cushion materials in 2.25 square foot or larger sizes.

5.5. Provide review, revisions and approvals on project installation diagrams provided to the carpet manufacturer by the carpet installation contractor.

6. Quality Assurance

6.1. Manufacturer's Qualifications

6.1.1. Carpet manufacturers must have a physically established local office within the seven county metro area of the University of Minnesota Twin Cities campuses.

6.1.2. The carpet manufacturer's local office shall have a knowledgeable individual specifically assigned to service the architect of record, the general contractor and the University of Minnesota, who shall be qualified and authorized to represent the manufacturer in all aspects of the Conditions of the Contract.

6.2. Single Source Responsibility: Provide materials produced or approved by a single manufacturer.

6.3. When requested by the architect of record or the university, perform testing using Underwriters Laboratories or other testing authority pre-approved and accepted by the code authorities having jurisdiction for this work.

6.4. Product Options: Products and manufacturers named in Part 2 establish requirements for product quality in terms of appearance, construction and performance. Other manufacturers' products comparable in quality to named products and complying with requirements may be considered. Refer to Division 1, Section 01600 - Product Requirements.

6.5. Mock-ups: When requested by the architect of record or the University of Minnesota, provide and install mock-ups as directed for each type of carpet installation to demonstrate aesthetic effects and quality of materials and execution. Obtain written approval of mock-ups from the architect of record before starting work. Maintain mock-ups during construction and promptly remove mock-ups when directed. Intact approved mock-ups may become part of the completed work subject to approval of the architect of record.

7. Warranty

7.1. Provide the manufacturer's published non-prorated written warranty, signed by the officer of the corporation. The warranty shall specify that the manufacturer shall agree to repair or replace all carpet materials that do not meet specified requirements or that are found to be defective. The manufacturer shall do so at no charge to the university for materials, freight and labor, including all reasonable costs for moving equipment and furnishings, and with minimal disruption. The warranty shall cover the following performance issues:

- A. Wear, tuft-bind, edge ravel, zippering, de-lamination, dimensional stability, and soil and stain resistance for a minimum of 10 years
- B. U/V protection for 10 years
- C. Color fast by atmosphere for five years
- D. Anti-microbial (where specified) and anti-static for lifetime
- E. Spike-proof products (where specified) warranty same as above except for a minimum of five years (interior direct glue-down application only)

7.2. Performance criteria and acceptable product construction tolerance limits used to determine defective or non-performing products shall be as shown on the manufacturer's individual carpet data sheets.

7.3. The University of Minnesota agrees that the warranty does not cover burns, cuts, normal soiling or damage due to improper use of cleaning agents or methods.

7.4. The manufacturer's non-prorated warranty shall be in addition to, and shall not in any way diminish, all legal express and implied warranty rights available to the university, including implied warranty of merchantability or fitness for a certain purpose.

7.5. Obligations of Warrantor: The carpet materials manufacturer shall, within five working days of receipt of claim, designate a representative to inspect the suspected product and evaluate the warranty claim. Any portion of the carpet materials that do not perform as specified shall be repaired or replaced using products from the manufacturer's current running line where possible, or with a comparable custom product, at the University of Minnesota's sole discretion.

7.6. Claim Procedures for Suspected Non-Conforming or Defective Products

7.6.1. When the University of Minnesota encounters a suspected non-conforming or defective product situation, the University of Minnesota shall advise the carpet manufacturer's local representative by telephone first, and follow in writing.

7.6.2. The carpet manufacturer's local representative shall make a joint on-site inspection with the university and the installation contractor to examine the affected area(s).

7.6.3. If the product deficiencies cannot be determined by visual inspection and/or a remedy satisfactory to the University of Minnesota cannot be provided, a certified inspector contracted by the manufacturer's representative shall inspect the affected area(s). The inspector shall procure additional special inspections or testing as he/she determines necessary to identify the defect and/or remedy the problem area.

7.6.4. If the suspected product is determined by the certified inspector to be in compliance with the specifications and performs to all required testing, the end-user shall pay all costs of the inspection and testing.

7.6.5. If the suspected product is determined by the certified inspector to be non-conforming or defective, the manufacturer shall pay all costs of the inspection and testing, and shall provide repair or replacement as specified in the written non-prorated warranty.

7.7. Claim Procedures for Stains

7.7.1. When the University of Minnesota encounters a staining situation, the affected area(s) must be given proper attention in accordance with the supplied manufacturer's maintenance guidelines within 48 hours.

7.7.2. If the staining situation is not correctable by University of Minnesota maintenance personnel using the manufacturer's prescribed procedures, a certified inspector contracted by the manufacturer's local representative shall inspect the affected area(s) and procure professional cleaning services to attempt to remedy the problem area(s).

7.7.3. If the stain cannot be removed by the professional cleaning service, the end-user shall pay all costs of the inspection and cleaning.

7.7.4. If the stain cannot be removed or the carpet is determined by the certified inspector to be non-conforming or defective, the manufacturer shall pay all costs of the inspection, testing and cleaning, and shall provide repair or replacement as specified in the written non-prorated warranty.

8. Existing Conditions and Carpet Demolition

8.1. Where required, the installation contractor shall demolish and remove existing carpet, carpet cushions and accessories.

8.2. Where required, the installation contractor shall remove, store and replace existing furniture, furnishings and detached equipment.

8.3. Obtain verification from the university owner's representative that the existing carpet and other flooring materials have been tested and are negative for asbestos and other hazardous materials.

8.4. Comply with CRI's "Carpet Installation Guidelines for Indoor Air Quality" as follows:

8.4.1. Vacuum the old carpet before removal to minimize the amount of dust particles.

8.4.2. Vacuum the floor also immediately after the old carpet and cushion has been removed.

8.4.3. Open windows and doors, if possible, for an adequate supply of fresh air. Use window fans, exhaust fans, room air conditioning units or other means for fresh air ventilation during the removal of old carpet and the installation of the new carpet.

8.4.4. Continue operating the ventilation system at normal room temperature for 48 hours to 72 hours after removal and installation.

8.4.5. Verify with the university owner's representative that any building occupants who consider themselves to be unusually sensitive, are properly notified so that they can avoid the area or leave the premises entirely while the old carpet is being removed and the new carpet is being installed.

9. Recycling/Disposal: The University of Minnesota requires carpet manufacturers, suppliers, contractors and installers to actively participate in environmentally responsible and legal recycling programs.

10. Delivery, Storage and Handling

10.1. Comply with CRI 104, Section 5 - Storage and Handling.

10.2. Deliver all materials for timely acclimation and aeration (minimum of 48 hours aeration), prior inspections and cutting/seaming to the appropriate carpet

installation contractor's workroom in original factory wrappings and containers. Do not deliver directly from point of manufacturer to work site.

10.3. Clearly label all materials with indelible, non-staining, non-damaging identification, including the manufacturer, the brand name, roll sequence, the University of Minnesota building name, the university project number, installation location by room/area, quality or grade, fire hazard classification, date of packaging and lot number.

10.4. Provide additional instructions and recommendations to the installation contractor for special delivery, storage and handling.

PART 2 - PRODUCTS

1. Carpet

1.1. Provide carpet and commercial special detached cushion padding as indicated on the contract documents, drawings and finish schedules, and match sample approved by the architect of record and the University of Minnesota.

1.2. To provide a quality standard, subject to compliance with requirements of this section, products manufactured by the following companies may be incorporated into the work: BOLYU Contract, Cambridge Commercial Carpets, Collins & Aikman, and Lees Commercial. Comparable manufacturer's products also may be allowed. Refer to Division 1, Section 01600 - Product Requirements.

1.3. Provide carpet materials that meet or exceed the following performance criteria:

- A. Flammability: Pass Methenamine Pill Test per CPSC 16, Part 1630
- B. Flame Spread: Pass critical radiant flux Class I, NBS minimum of 0.455 watts/sq. cm per NFPA 258/ASTM E 648
- C. Smoke Density: Pass smoke density test of no greater than 450, tested in accordance with NFPA 258, ASTM E 662 and UBC Standard 42-1 in the way intended for use
- D. Dry Breaking Strength: Not less than 100 lbf per ASTM D 2646
- E. Wear: Wear shall not exceed 10 percent of pile face fiber by weight for 10 years
- F. Edge Ravel: Properly installed and under normal use, no edge ravel for 10 years
- G. Static Resistance: Per NFPA 99 in healthcare facilities or as specified by the architect of record
- H. Static Generation: Less than 3.5 kV per AATCC-134 for 10 years
- I. Tuft Bind: Greater than 15 pounds per ASTM D-1335 for 10 years
- J. Backing Integrity: No de-lamination for 10 years

- K. Color Fast: No change in color due to exposure to light per AATCC 16E. No color change due to atmospheric contaminants, including ozone and/or oxides of nitrogen per AATCC 164 and AATCC 129. No stain by crocking per AATCC 165 (10 years)
- L. Anti-microbial: Pass standards for inhibiting bacteria and fungus per AATCC 174, parts I, II and III. Lifetime warranted.
- M. Soil/Stain Resistant: No apparent stain per AATCC 6, AATCC 123 and AATCC 175 for 10 years

1.4. Provide carpets that meet or exceed the following carpet construction criteria:

- A. Face Construction: Tufted textured loop pile, or Tip-sheared loop, woven or Symtex
- B. Face Fiber: 100 percent nylon, type 6 or type 6.6
- C. Dyeing Method: Solution dyed or Lee's Duracolor. Each type, pattern, style and color shall be of one dye lot with roll sequence integrity
- D. Primary Backing: Woven polypropylene
- E. Secondary Backing: Powerbond RS, iLoc MB, Unibond, Thermobond, Unitary, Unitary/Action-Bac, Surelock or equivalent
- F. Gauge: 1/8, 1/10, 1/12, 1/13 or 5/64 per ASTM D 5793
- G. Density: Minimum 6,000 ounces per cubic yard per ASTM D 418
- H. Weight Density: Minimum 188, 000 per ASTM D 418
- I. Pile Height: 0.187 inch average maximum
- J. Pile Thickness: .150 inch average minimum
- K. Yarn Weight: 26 ounces per square yard minimum per ASTM D 5848
- L. Total Weight: 60 ounces per square yard minimum
- M. Roll goods available in 12-foot and 6-foot widths
- N. Indoor Air Quality Certification: Registration per CRI Green Label Program

1.5. Where indicated in the drawings and/or finish schedules, provide commercial grade special detached cushion padding. Commercial grade special detached cushion padding shall only be specified if legitimately required by the project program or required due to specific unfavorable project conditions as determined by the university Facilities Management owner's representative. All carpet cushion padding shall be approved in writing by the university Facilities Management owner's representative, shall meet traffic class for its intended application, shall comply with ADA requirements for accessibility, and shall comply with fire/life safety requirements.

2. Extra Materials

2.1. Generally, the University of Minnesota does not require extra carpet materials to be provided unless it is specifically designated on the individual purchase order, and pre-approved by the university owner's representative for accommodating specific project goals/needs. Where required by the university,

the architect of record shall specify that the scraps shall be retained to provide patching materials in the event of minor damage during the construction project warranty period (usually one year). A/E note: Long-term storage of carpet materials results in permanent degradation of the finished product, creates storage space demands, requires additional/special record-keeping and additional university staff physical handling, and adds unnecessarily to the base cost of each project.

2.2. When specifically requested by the university, provide not less than the amount stated in the contract documents of each type, style and color of carpeting, exclusive of material required to properly complete installation. This extra stock must be in sizes more than 36 inches long by full mill width. Furnish extra stock materials from the same production run as materials to be installed.

2.3. The installation contractor shall wrap and protect extra stock, and label/identify with indelible, non-staining, non-damaging permanent labels. Identify the following: the manufacturer, the carpet brand name, the University of Minnesota building name, the university project number, installation location by area/room, quality or grade, fire hazard classification, date of packaging for storage and lot number.

PART 3 - EXECUTION

1. Examination: After acclimation and before cutting/seaming, the installation contractor's local representative shall thoroughly examine the materials, along with the carpet manufacturer's local representative, prior to delivery to the work site.

2. Preparation

2.1. In new construction, all general floor leveling to within 1/8 inch in 10 foot, 0 inches shall be by the general contractor, and shall comply with CRI 104, Section 6 - Site Conditions, as well as the specified carpet manufacturer's preparation recommendations.

2.2. For rehabilitation and remodeling projects, all general floor leveling may be by either the general contractor or the installation contractor at the request of the general contractor following the same tolerances and standards as for new construction noted above.

2.3. Minor leveling and other floor preparation for installation shall be by the carpet installation contractor in conformance with the specified carpet manufacturer's preparation recommendations.

3. Installation

3.3.1. Comply with CRI 104, sections 8 through 13 by applicable installation method.

3.3.2. Use environmentally responsible, low VOC installation materials.

3.3.3. Carpet Installation Contractors: All installations shall be performed by individuals pre-certified by the carpet materials manufacturer for installation of proposed products.

3.3.4. The carpet materials manufacturer shall agree to provide all required installation training and certifications to the designated carpet installation contractors at no cost to the general contractor or the University of Minnesota.

4. Maintenance/Cleaning

4.1. Clean carpets after installation and protect completed work per CRI 104, Section 15 - Protection of Indoor Installations. Promptly remove protective coverings as directed by the architect of record or the university owner's representative.

4.2. Provide initial and ongoing programmed instruction and training of university's maintenance staff on the proper maintenance materials and techniques required for long-term appearance retention and product durability.

SECTION 09680 - SAMPLE CARPET WARRANTY

Provide original carpet warranty on carpet manufacturer's corporate letterhead with original signature(s) of an officer of the corporation, matching the information and statements below:

NON-PRORATED WARRANTY

(Corporation Name) Corporation, agrees to repair or replace all carpet materials that do not meet specified requirements or that are found to be defective, at no charge for materials, freight and labor, including all reasonable costs for moving equipment and furnishings, and with minimal disruption to the University of Minnesota, covering the following performance issues:

1. Wear, tuft bind, edge ravel, zippering, de-lamination, dimensional stability, and soil and stain resistance for a minimum of 10 years
2. U/V protection for 10 years
3. Color fast by atmosphere for five years
4. Anti-microbial (where specified) and anti-static for lifetime
5. Spike-proof products (where specified) warranty same as above except for a minimum of five years (interior direct glue-down application only)

Performance criteria and acceptable product construction tolerance limits used to determine defective or non-performing products shall be as shown on the (Corporation Name) individual carpet data sheets.

The University of Minnesota agrees that the warranty does not cover burns, cuts, normal soiling or damage due to improper use of cleaning agents or methods.

(Corporation Name) non-prorated warranty shall be in addition to, and shall not in any way diminish all legal express and implied warranty rights available to the University of Minnesota, including implied warranty of merchantability or fitness for a particular purpose.

(Corporate Name) shall, within five working days of receipt of claim, designate a representative to inspect the suspected product and evaluate the warranty claim. Any portion of the carpet materials not performing as specified shall be repaired or replaced using products from the manufacturer's current running line where possible or with a comparable custom product at the University of Minnesota's sole discretion.

A. Claim Procedures for Suspected Non-Conforming or Defective Products

1. When the University of Minnesota encounters a suspected non-conforming or defective product situation, the University of Minnesota shall advise the (Corporation Name) local representative by telephone first, and follow in writing.
2. The (Corporation Name) local representative shall make a joint on-site inspection with the University of Minnesota and the installation contractor to examine the affected area(s).
3. If the product deficiencies cannot be determined by visual inspection, and/or a remedy satisfactory to the University of Minnesota cannot be provided, a certified inspector contracted by the (Corporation Name) local representative shall inspect the affected area(s) and procure additional special inspections or testing as he/she determines necessary to identify the defect and/or remedy the problem area.
4. If the suspected product is determined by the certified inspector to be in compliance with the specifications, and performs to all required testing, the end-user shall pay all costs of the inspection and testing.
5. If the suspected product is determined by the certified inspector to be non-conforming or defective, the manufacturer shall pay all costs of the inspection and testing, and shall provide repair or replacement as specified in the written non-prorated warranty.

B. Claim Procedures for Stains

1. When the end user encounters a staining situation, the affected area(s) must be given proper attention in accordance with the supplied manufacturer's maintenance guidelines within 48 hours.
2. If the staining situation is not correctable by University of Minnesota maintenance personnel using the manufacturer's prescribed procedures, a certified inspector contracted by the manufacturer's local representative shall inspect the affected area(s) and procure professional cleaning services to attempt to remedy the problem area(s).
3. If the stain can be removed by the professional cleaning service, the end-user shall pay all costs of the inspection and cleaning.
4. If the stain cannot be removed or the carpet is determined by the certified inspector to be non-conforming or defective, the manufacturer shall pay all costs of the inspection, testing and cleaning, and shall provide repair or replacement as specified in the written non-prorated warranty.

_____ Legal name of corporation
 _____ Legal address of corporation
 _____ Signature of an officer of the corporation
 _____ Officer's title
 _____ Date of signature
 _____ Listing of corporation products covered by
 warranty

SECTION 09680 - CARPET DATA SAMPLE SHEET

3.5. Carpet Data

3.5.1. Carpet Description

- A. Manufacturer
- B. Product name
- C. Product number
- D. Mill width

3.5.2. Carpet Performance

- A. Flammability: Passes CPSC 16 CFR, Part 1630
- B. Flame Spread: Passes critical radiant flux Class I, NBS minimum - 0.455 watts/sq. cm. per NFPA 258/ASTM E 648 and UBC 42-1 in the way intended for use
- C. Surface Burning: 450 or less per NFPA 258/ASTM E 662
- D. Dry Breaking Strength: 100 lbf minimum per ASTM D 2646

- D. Wear: Not more than 10 percent fiber loss by weight
- E. Edge Ravel: No edge ravel when properly installed and under normal use
- F. Static Resistance: Per NFPA 99 where specified
- G. Static Generation: Per AATCC-134
- H. Tuft Bind: Per ASTM D 1335
- J. De-lamination of Secondary Backing: Per ASTM D 3936
- K. Soil/Stain Resistance: Per AATCC 6, AATCC 123 and AATCC 175
- L. Noise Reduction Coefficient: Per ASTM 423
- M. Anti-microbial Resistant: Where specified, not less than 2 mm halo of inhibition for gram positive bacteria. Not less than 1 mm halo of inhibition for gram negative bacteria. No fungal growth. Per AATCC-174
- N. Colorfastness to light: No change per AATCC 16E
- O. Colorfastness to atmosphere: No change per AATCC 164 and AATCC 129
- P. Colorfastness to crocking: No stain per AATCC 165
- Q. Soil and Stain Resistance: No apparent stain per AATCC 6, AATCC 123 and AATCC 175
- R. Indoor Air Quality Certification: Registration per CRI Green Label Program

3.5.3. Carpet Construction

- A. Face construction
- B. Face Fiber Content: Indicate type 6 or type 6,6
- C. Face fiber denier
- D. Dyeing Method: Each type, pattern, style and color shall be of one dye lot with roll sequence integrity
- E. Primary backing
- F. Secondary backing
- G. Mill Width: Indicate in feet
- H. Stitches: Indicate per inch
- I. Gauge: Indicate in ends per inch
- J. Density: Average per ASTM 418
- K. Pile Height: Indicate for finished carpet per ASTM D 418
- L. Surface Pile Weight: Do not include weight of backings
- M. Total Weight: Indicate in ounces per square yard for finished carpet

SECTION 09680 - CARPET CUSHION DATA SAMPLE SHEET

3.6. Carpet Cushion Data

3.6.1. Carpet Cushion Description

- A. Manufacturer
- B. Product name
- C. Product number

3.6.2. Carpet Cushion Performance: Critical radiant flux classification

3.6.3. Carpet Cushion Construction

- A. Material
- B. Traffic Classification: By CCC class
- C. Weight: Indicate in ounces per square yard
- D. Finished Thickness: Indicate in inches
- E. Mill Width: Indicate in feet
- F. Compression Deflection Test: Indicate CLD in PSI per ASTM D 3574
- G. Indentation Deflection Test: Indicate ILD at percent PSI per ASTM D 3574
- H. Anti-microbial Resistance where specified: Not less than 2 mm halo of inhibition for gram positive bacteria. Not less than 1 mm halo of inhibition for gram negative bacteria. No fungal growth. Per AATCC-174

End of Appendix M - Section 09680 - Carpet Specification Guide
University of Minnesota Facilities Management
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