



ALBUQUERQUE PUBLIC SCHOOLS

Department of Facility Design & Construction
Department of Maintenance & Operations

MODULAR CARPET SPECIFICATIONS

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Section 096813

LEES FLAMESTITCH II CARPET TILE

PART I – GENERAL

1.01 SUMMARY

- A. Section Includes: carpet tile and accessories.
- B. General: The following publications of the issues listed below, but referred to hereinafter by basic designation, form a part of this specification to the extent as if bound herein:
American Society for Testing and Materials (ASTM):
 - 1. E84 – Test Method for Surface Burning Characteristics of Building Materials.
 - 2. E648 – Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

1.02 SUBMITTALS

- A. Layout Drawings: Show layout of each carpet type installation, at 1/8" scale.
- B. Samples: Submit for verification purposes, one full tile of each carpet required. Samples shall be accompanied by manufacturer's technical specification for each carpet required using terminology characteristics as listed in this specification. Also include a complete representation in sample form of all available colorations.
- C. Maintenance Data: Submit manufacturer's printed maintenance recommendations for the care, cleaning, and maintenance of the carpet, including detailed instructions pertaining to hot water extraction methods.

1.03 QUALITY ASSURANCE

- A. Flooring Contractor's Qualifications: Firm with not less than 5 consecutive years of experience in installation of commercial carpeting of type, quantity and installation methods similar to work of this section. FLOORING CONTRACTOR SHALL SUBMIT WITH BID PROPOSAL WRITTEN CERTIFICATION FROM CARPET MANUFACTURER, DEMONSTRATING THEIR FIRM IS AN AUTHORIZED DEALER.
- B. Measurement Verification: Dimensions shown on drawings are approximate. It is the Flooring Contractor's responsibility to verify all dimensions and job site conditions; order sufficient yardage to fully carpet areas as indicated and to fill overage requirements as specified. No substitutions shall be permitted to make up for any shortage of material in overage or in carpet to be installed.
- C. Flooring Contractor shall be totally responsible for the accuracy of his measurements of total yardage, individual floor yardage, and dye lot yardage requirements, extra yardage for pattern match, and roll length requirements; no additional compensation shall be allowed for shortage of materials.
- D. Dye Lots: All carpet of the same type in continuous areas shall be from the same dye lots.
- E. Owner reserves the right to test carpet at their expense to verify that the delivered carpet is as specified. If carpet does not meet specifications, manufacturer will reimburse owner the testing expense and the carpet may be rejected.

1.04 PRODUCT DELIVERY, STORAGE & HANDLING

- A. Deliver carpeting materials in original mil protective package with mill register numbers and tags attached. Maintain wrappers and protective covers in place until carpet is ready for installation. Store inside, in well-ventilated area, protected from weather, moisture and soiling.

- B. Cutting: Before beginning installation, it shall be inspected for defects, color variations or shipping damage and be immediately replaced if any of these conditions exist at no additional cost to the Owner. Carpet tiles shall be inspected to insure that carpet tiles are from the same dye lot.
- C. **Deliver all required overages and maintenance stock to owner's specified location prior to beginning installation.**

1.05 JOB CONDITIONS

- A. Environmental Conditions: Maintain temperatures in space in accordance with carpet manufacturer's recommendations, but in no case less than 60 degrees F for 24 hours prior to, during and after installation. Subfloor temperature should be a minimum 60 degrees F for 24 hours prior to and after installation.
- B. Precondition: All of the carpet be stored in a room on site 24 hours prior to actual installation with the room preconditioned at a minimum of 60 degrees F with humidity between 35% to 65%.

1.06 SEAMING REQUIREMENT

- A. General: In addition to the requirements and recommendations of the Carpet Manufacturer, the following criteria shall be adhered to:
 - 1. Installation layout shall enable future replacement, especially in large open areas and traffic paths, unless specifically indicated in writing by owner or owner's representative.
 - 2. No carpet tile pieces smaller than 6" in width or length shall be used.
 - 3. Seams occurring at doors of different types of carpet shall be parallel to closed door, and be centered directly under the closed door.
 - 4. Flooring Contractor is responsible for trimming all loose yarn and fuzzy edges of carpet tiles.
 - 5. All cutting of carpet for telephone and electrical outlets shall be the responsibility of the Flooring Contractor.

1.07 WARRANTY

- A. General: Provide special warranty, signed by Flooring Contractor, agreeing to repair or replace defective workmanship during a 10 year warranty period following date of Substantial Completion. Attached copies of product warranties as required in Part 2, item 2.01 of this specification section for warranties required.

1.08 EXTRA STOCK

- A. General: Furnish 5% additional yardage of each carpet type required; extra yardage is over and above any overage provided by manufacturer. Deliver to the Owner uncut in clearly marked dust-proof packages **prior to commencement of work**; store where directed.

PART 2 - PRODUCTS

2.01 CARPET TILE

- A. Carpet Type CPT-1: Lees Flamestitch II Carpet Tile (www.leescarpets.com)
 - 1. Construction: Tufted
 - 2. Surface Texture: Textured pattern loop pile
 - 3. Pile Thickness: .136" avg.
 - 4. Gauge: 1/12"
 - 5. Yarn Weight: 20 oz. per sq. yd. minimum.

6. Face Yarn: Type 6,6 Environmentally Preferred Product Antron Legacy Nylon by Invista
7. Dye System: Duracolor® by Lees Patented Permanent Stain and Fade Resistant Technology
8. Dry Soil Retardant: DuraTech by Invista.
9. Primary Backing: Reinforced synthetic
10. Secondary Backing: Fiberglass reinforced thermoplastic composite
11. Size: 24" x 24"
12. Static Control: 3.0 KV when tested under Standard Shuffle test (70 degrees, 20% RH)
13. Flammability:
 - a. DOC-FF-1-70 Pill Test: Passes
 - b. Floor Radiant Panel: Meets NFPA Class 1 when tested per ASTM-E-648 glue down.
14. Permanent Stain Resistance: Stain resistant properties must be permanent and not removable by commercial cleanings or abrasive wear. Under GSA requirements stain resistant carpets must score no less than 8.0 (10.0 is the best) on the AATCC Red 40 Stain Scale. Test sample must first be exposed to 100 revolutions on the Taber Abrader (1,000-gram weight per H-18 wheel) and then abraded area must be stain tested using AATCC test method 175. Topical stain resistant treatments will not be acceptable. Stain resistant properties must be inherent.
15. NBS Smoke Chamber NFPA 258: Less than 450 Flaming Mode
16. Color Fastness:
 - A. Lightfastness – AATCC 16E-1982 – Dark color: Gray scale rating of 4 or better after 160 standard fading hours as compared to AATCC Gray Scale for evaluation change in color.
 - B. Ozone and Gas – AATCC 129-1981 – Rating 3 or better per color AATCC transference scale.
17. Indoor Air Quality: Certified under the CRI Green Label Plus Program.
18. Carpet Manufacturers: Subject to compliance with specifications, the following manufacturers.

B. LEED AND ENVIRONMENTAL ATTRIBUTES (www.mohawkgreenworks.com)

1. Materials Credit 2: Construction Waste Management
2. Materials Credit 4: Recycled Content
3. IEQ Credit 4: Low Emitting Materials
4. Environmental claims by manufacturer comply with FTC guidelines
5. Recycled Content: Minimum of 35% post-industrial recycled content based on total product weight.
6. Environmentally Preferred Product: In accordance with NSF 140 – Sustainable Carpet Assessment Standard.
7. Carpet Face Yarn: In accordance with Executive Order 13101, carpet face yarn certified as Environmentally Preferred Product (EPP).

8. Low Emitting Materials: Carpet and all installation components including adhesives meet *Low Emitting Materials* standards as outlined in U.S. Green Building Council LEED criteria. Carpet and adhesive pass the CRI Green Label Plus Program in terms of VOC emissions.
9. End of Life Reclamation: Methodology actively in place to achieve landfill diversion.

C. WARRANTIES

1. Definition of Lifetime: Lifetime is defined as the period from which materials are installed until the date in which the owner removes them from service.
2. Lees Carpets manufacturer's Lifetime Warranty, non-prorated, against product failure covering all costs including freight, labor, and material for the following:
 - Edge Ravel/Tuft Bind
 - Back lamination
 - Static protection as stated above
 - Wear – No more than 10% Face Yarn Loss
 - Cup, Dome, Dish
 - Dimensional stability
 - Adhesive bond to the floor
 - Permanent stain resistance to acid-type spills
3. Installation Warranty: Lifetime Warranty, non-prorated, against any installation related failure covering all costs including freight, labor, and material signed by the flooring contractor.

2.02 ACCESSORIES

- A. Adhesives: Waterproof, non-flammable carpet adhesive recommended and approved by carpet manufacturer in writing for compatibility with carpet backing. All floor sealers, seam sealers, and adhesives shall contain no calculated solvents per OSHA Regulation 29 CFRE 1910.1200, have no calculated VOC's, be non-flammable, and meet the criteria of the CRI Green Label Plus Certification Program. MSDS and samples required on products used.
- B. Miscellaneous Materials: As recommended and approved in writing by manufacturer of carpet, and selected by Flooring Contractor to meet project circumstance and requirements.
- C. Protection Paper: Fortifiber Corporation "Seekure 892", or approved heavy, reinforced, non-staining kraft laminated paper.

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

- A. General: Comply with manufacturer's instructions and recommendations for installation of this type of carpet by the glue down method.
- B. Prepare the subfloor to insure a successful installation. Utilize a floor sealer such as Lees Everseal where needed or recommended by manufacturer.
- C. Carpeting shall be installed with pile lying in the same direction. Cut carpet evenly and accurately to fit neatly at walls, columns, and projections. Extend carpet under open-bottomed and raised-bottomed obstructions, and under removable flanges of obstructions.

- D. Installed carpet shall be free of ripples, ravel, frays, puckers and raw exposed edges. All loop pile carpets will demonstrate some fuzzy edges due to normal manufacturing conditions. It is the carpet installer's responsibility to trim all edges to eliminate fuzzy seams.
- E. Expansion Joints: Do not bridge building expansion joints with continuous carpeting, provide for movement.

3.02 CLEANING AND PROTECTION

- A. Remove and dispose of debris and unusable scraps.
- B. Vacuum carpet using two motor, top loading, upright commercial machine with brush-only element, utilizing a high filtration dust bag. Remove spots in accordance with carpet manufacturer's guidelines and replace carpet where spots cannot be removed. Remove any protruding face yarn using sharp scissors. Be certain to trim any loose yarns or fibers at all seams.
- C. Following cleaning and vacuum carefully protect the carpeting from soiling and damage until final acceptance. Protection shall be accomplished by using approved protection paper. Edges shall be lapped 6 inches and secured with non-asphaltic tape. Covering shall be kept in repair and damaged portions replaced during the construction and move-in period.
- D. Maintenance Materials: Deliver usable, uncut carpet tiles to Owner's designated storage space, properly packaged and identified. Dispose of smaller pieces as construction waste.

Lee's Modular Carpet Specification

Flamestitch II DH333

SPECIFICATIONS:	Modular
Stitches:	8.2 per inch
Pile Height:	.093 - .218" avg
Fiber Technology:	Duracolor® by Lees Stain Resistant System Passes GSA requirements for permanent stain resistant carpet*
Face Yarn Weight:	20 oz/yd ² (678.20 gm/m ²)
Backing Materials:	Fiberglass reinforced thermoplastic composite tile
Size:	24" x 24" (60.9 cm x 60.9 cm)
Recycled Content:	Minimum 35% post industrial by total weight

PERFORMANCE

Static:	3.0 kv when tested under the Standard Shuffle Test 70° (21° C) – 20% R.H.
Flammability:	Passes DOC-FF-1-70 Pill Test
Flooring Radiant Panel Test:	Meet NFPA Class 1 when tested under ASTM E-648 glue down
Smoke Density:	NBS Smoke Chamber NFPA A-258 – Less than 450 Flaming Mode
CRI Certified:	Y
Construction Materials:	100% man-made materials for superior stability. Specifications are subject to change without notice when such changes do not alter product performance. Slight color variation may occur from dye lot to dye lot.

WARRANTIES

Wear:	Lifetime of Carpet. No more than 10% face yard loss by weight in normal use.
Static:	Lifetime of Carpet
Edge Ravel:	Lifetime of Carpet. Guaranteed no edge ravel in normal use
Delamination:	Lifetime of Carpet. Guaranteed no delamination in normal use (no chair pads required).
Tuft Bind:	Lifetime of Carpet
Adhesive:	Lees warrants that the use of Lees adhesives will bond the carpet to the properly

prepared substrate for the life of the carpet. Substrate must meet Lees recommended floor preparation procedures. Should Lees adhesive not be used, Lifetime Adhesive Warranties become null and void.

Stain Resistance: Lees provides lifetime stain warranty and a 10-year Lightfastness and Atmospheric Contaminant warranty on all Duracolor® carpets. This lifetime stain warranty covers all Duracolor® carpets made by Lees.

*Under GSA requirements stain resistant carpets must score no less than 8.0 (10.0 is best) on the AATCC Red 40 Stain Scale. Carpet samples must first be exposed to 100 revolutions of the Taber Abrader (1,000-gram weight per H-18 wheel) and then the abraded area must be stain tested using AATCC test method 175.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTIFICATION

SECTION 09680—INTERFACE JUNCTION OR CONNECTION CARPET MODULES

2.1 MANUFACTURER

1. Manufacturer shall have no less than fifteen years of production experience with modular carpet.
2. Manufacturer must provide verification of its registration to the ISO 9001 Quality Management system and the ISO 14001 Environmental Management System Standards.
3. Manufacturer must demonstrate environmental responsibility and a commitment to sustainability through programs of source reduction, recycling, reuse and conservation.

2.2 CARPET TILE

1. All carpet shall be tufted and of first quality.
2. All carpet tile styles shall have mergeable dye lots (same color manufactured at different times blending with no distinguishable variation) and require no more than 1% optional attic stock.
3. Installation Method-carpet tile must install in a non directional method (no attention to pile direction required during installation), should produce no more than 2% trim waste during installation and capable of being installed without any wet adhesives.
4. Manufacturer must state amount of anticipated trim/installation waste with bid.
5. Specified carpet must have Climate Neutral certification, ensuring that all greenhouse gas emissions associated with the life cycle of the product have been offset. (Certification will qualify for LEED innovation point if cost of carpet equals 5% of total material cost of project).
6. Carpet tile should contain a minimum of 40% total recycled content.

2.3 CARPET SHALL MEET THE FOLLOWING PERFORMANCE STANDARDS*:

1. Carpet Flammability
2. Pill Test (ASTM D2859 or CPSC FF-1-70) Passes
3. Radiant Panel Test (ASTM E648) > 0.45 watts/cm², Class 1
4. Smoke Density (ASTM E662) < 450 Flaming Mode
5. Dimensional Stability (Aachen Method Din 54318) < 0.10% change
6. Static Generation at 70° F (AATCC 134 w/ neolite) < 3.0 kV at 20% R.H.
7. Lightfastness (AATCC 16E) 4.0 after 60 hours
8. Crocking (AATCC 165) 4.0 wet, dry
9. Nitrogen Dioxide (AATCC 164) 4.0
10. Ozone Fade (AATCC 109) 4.0
11. Antimicrobial (AATCC 174, Part II) > 95.0% reduction
12. Fungicidal (AATCC 174, Part III) No growth
13. Soil/Stain Protection (AATCC 175-1991) > 8.0 on the Red 40 Stain Scale
14. Appearance Retention (CRI TM101) Severe Use

2.4 PRODUCT SPECIFICATION

Junction or Connection “i2” Carpet Modules

1. Construction Type Tufted Textured Loop
2. Face Fiber 100% Premium Branded Invista Antron Lumena/Legacy

3. Modification Ratio <2.5
4. Dye Method 66% solution dyed/34% yarn dyed
5. Pile Height: .16 in
6. Dye Lots None
7. Soil/Stain Block Treatment: Protekt2®
8. Antimicrobial Intersept® Broad Spectrum
9. Primary Backing NonWoven
10. Secondary Backing GlasBac RE fiberglass reinforced, composite. (LEED innovation point available with GlasBac RE if cost of carpet equal to 1.25% of total cost of material of project.) Backing technology must have been in production for a minimum of 5 years.
11. Yarn Weight 18 oz. per yd²,
12. Gauge 1/12"
13. Stitches 8./inch
14. Pile Thickness 0.090 inch
15. Pile Density (UM44D) 6545
16. Total Thickness 0.275 inch
17. Size 50cm x 50cm (19.69" x 19.69")

Interface Modular Carpet Specifications

Junction II GlasBac® RE Tile

Product Number:	146970250H
Product Construction:	Tufted Textured Loop
Standard Colorline:	12
Yarn System:	Type 6.6 Nylon
Yarn Manufacturer:	Universal
Dye Method:	64% Solution Dye, 36% Yarn Dye
Recycled Contents:	
Post Industrial Range:	33% - 34%
Post Consumer:	33%
Total Recycled Contents	66% - 67%
Soil/Stain Protection:	Protekt2®
Antimicrobial:	(AATCC 138 Washed)(AATCC 174 Parts 2&3) Intersept®

PRODUCT SPECIFICATIONS

	U.S.	METRIC
Tufted Yarn Weight:	18 oz/yd ²	610.0 g/m ²
Machine Gauge:	1/12 in	47.2 ends/10 cm
Pile Height:	0.13 in	3.3 mm
Pile Thickness:	0.077 in	2.0 mm
Stitches:	8/in	31.50 ends/10 cm
Piles Density:	8416	
Size:	19.69 in x 19.69 in	50 cm x 50 cm

PERFORMANCE SPECIFICATIONS

Radiant Panel:	(ASTM E - 648) Class 1
Smoke Density:	(ASTM E - 662) ≤450
Lightfastness:	(AATCC 16 - E) ≥4.0 @ 60 AFU's
Static:	(AATCC - 134) < 3.0 KV

Dimensional Stability: AACHEN Din 54318 < .10%
 Standard Backing: GlasBac® Tile (50 cm x 50 cm)
 Backing Options: GlasBac® Tile (50 cm x 50 cm) GlasBac® RE Tile(50 cm x 50 cm),
 NexStep® Tile (50 cm x 50 cm)

INSTALLATION

Tile: Non-Directional
 Issue Date: 5/15/09

Connection II GlasBac® RE Tile

Product Number: 146920250H
 Product Construction: Tufted Textured Loop
 Standard Colorline: 12
 Yarn System: Type 6.6 Nylon
 Yarn Manufacturer: Universal
 Dye Method: 64% Solution Dye, 36% Yarn Dye
 Recycled Contents:
 Post Industrial Range: 33% - 34%
 Post Consumer: 33%
 Total Recycled Contents 66% - 67%

Soil/Stain Protection: Protekt²®
 Antimicrobial: (AATCC 138 Washed)(AATCC 174 Parts 2&3) Intersept®

PRODUCT SPECIFICATIONS

	U.S.	METRIC
Tufted Yarn Weight:	18 oz/yd ²	610.0 g/m ²
Machine Gauge:	1/12 in	47.2 ends/10 cm
Pile Height:	0.13 in	3.3 mm
Pile Thickness:	0.077 in	2.0 mm
Stitches:	8/in	31.50 ends/10 cm
Piles Density:	8416	
Size:	19.69 in x 19.69 in	50 cm x 50 cm

PERFORMANCE SPECIFICATIONS

Radiant Panel: (ASTM E - 648) Class 1
 Smoke Density: (ASTM E - 662) ≤450
 Lightfastness: (AATCC 16 - E) ≥4.0 @ 60 AFU's
 Static: (AATCC - 134) < 3.0 KV
 Dimensional Stability: AACHEN Din 54318 < .10%
 Standard Backing: GlasBac® Tile (50 cm x 50 cm)
 Backing Options: GlasBac® Tile (50 cm x 50 cm) GlasBac® RE Tile(50 cm x 50 cm),
 NexStep® Tile (50 cm x 50 cm)

INSTALLATION

Tile: Non-Directional
 Issue Date: 5/15/09

2.5 MINIMUM CONSTRUCTION STANDARDS IN ADDITION TO PRODUCT SPECIFICATIONS

1. Nylon Specification—Premium Branded 100% Invista Nylon with modification ratio of less than 2.5
2. Antimicrobial Preservative
 1. The preservative must be registered with the EPA and have a stamped EPA Technical Bulletin stating it is approved for use in carpets.
 2. The preservative should be incorporated into the primary backing of the product during the manufacturing process not topically applied to the carpet fibers or the backing.

3. The preservative must not be metallic or halogens based (No zinc, copper, tin, chlorine, bromine, etc.) and have low water solubility (30 ppm or less) for good durability.
4. The preservative should be low in toxicity (not less than an oral LD50 of 2.4 g/Kg), show no mold or bacterial growth when tested per the ASTM E2471 Standard Test Method, and meet the AATCC method 174 parts II and III.
5. The antimicrobial treated carpet must maintain, for the warranted life of the carpet, a minimum of 90% reduction of the microorganisms and be environmentally responsible, i.e., biodegradable and not toxic to non-target species.

2.6 WARRANTY

1. Wear–Surface fiber wear shall not be more than 10% by weight in 20 years. (Note: Wear warranty shall not require use of chair pads)
2. Static–Static generation at less than 3.0 kV at 70° F, and 20% R.H. for not less than 20 years.
3. No delamination for a period not less than 20 years.
4. No edge ravel for a period not less than 20 years.
5. No dimensional instability (i.e., shrinkage, curling and doming) which adversely affect the ability of the tile to lay flat for a period not less than 20 years.
6. Mold warranty.

2.7 ENVIRONMENTAL IMPACT AND MEASUREMENTS

Modular carpet tile manufacturer must meet the following criteria:

1. Greenhouse gas emissions from purchased electricity and on-site combustion attributable to the manufacturing process (including outsourcing) must not exceed 1 lb of carbon dioxide per square meter (0.83 lbs per square yard), must be offset and certified by a third party
2. Non-renewable energy per unit of production during manufacturing process (including outsourcing) must not exceed 15,000 BTU per square meter (12,542 per square yard).
3. Solid waste generated in the manufacturing process (including outsourcing), regardless of disposal method, must not exceed 0.5 lbs per square meter (0.42 lbs per square yard).
4. Water intake, for manufacturing purposes, during the manufacturing process (including outsourcing) must not exceed 1 gallon per square meter (0.83 gallons per square yard).
5. Must meet all federal, state, and local environmental laws, including laws governing air emissions, waste water treatment, and solid waste disposal/treatment
6. Manufacturer should voluntarily disclose all environmental citations, including date and description of incident.
7. Manufacturer should voluntarily state total pounds of toxic pollutants released into the environment in the most recently submitted Toxics Release Inventory (SARA 313) report.

2.8 Related Carpet Materials

1. Leveling compound - Latex type as recommended by carpet manufacturer. Must be compatible with carpet adhesive and curing/sealing compound on concrete.
2. Installation connectors - Compounded acrylic adhesive, applied to PET polyester backing with PET polyester release liner (clear 3" x 3" polyester squares with small quantity of a pressure sensitive adhesive applied on one side of the polyester film). The squares connect the carpet modules together to form a stable surface over almost any hard surface. The connectors shall contain no liquid components and shall have "zero" calculated VOC's.
3. Carpet edge guard, non-metallic - Extruded or molded heavy duty vinyl or rubber carpet edge guard of size and profile indicated, and with minimum two inch wide anchorage flange; colors selected by architect/designer from among standard colors available within the industry.

4. Miscellaneous materials - As recommended by manufacturer of carpet. Other carpeting products to be selected by installation provider to meet project requirements.
5. Electrostatic (Dissipation low-generation)
 1. Surface Resistivity - Across face of carpet ($< 2.0 \times 10^9$ and $> 1.5 \times 10^5$) or (0.15 to 2000 megaohms)
 2. Transverse or Volume Resistivity - Through face of carpet ($< 2.0 \times 10^{10}$ and $> 1.5 \times 10^5$ ohms) or (0.15 to 2000 megaohms)

3.1 Pre-Installation Requirements

1. All existing carpet and existing carpet waste be reused or recycled in an “environmentally friendly” manner. A reclamation plan must be submitted that will provide directions for the reclamation of all carpet at the job site. “Environmentally friendly” carpet recycling methods also should be performed subsequent to job completion. As used herein, “environmentally friendly” methods consists of either:
 1. **Repurposing** - reusing the product in another application such as facilitating the donation of used carpeting to charities and other nonprofit organizations.
 2. **Recycling** - turning waste materials into new materials of the same value, such as vinyl backing into vinyl backing
 3. **Upcycling** - turning waste materials into more valuable products. For example, using waste PET (plastic from soda bottles) to create panel fabric.
 4. **Downcycling** - creating less valuable products from waste materials. For example, turning nylon face fiber into car parts or carpet padding, including nylon face fiber in recycled backings, or using carpet for waste-to-energy utilizing the most efficient burning system possible. (In the case of down cycling, manufacturer must justify down cycling process used.)
2. **Description of Reclamation Services** - Carpet must be removed from the existing installation and prepared for pickup based on the type of material and reclamation option selected. Specifications for removal from the jobsite include:
 1. **Removal of carpet tile for recycling**
 1. Carpet tile must be palletized and secured for shipping, (i.e., shrink wrap, banding, strapping).
 2. Carpet tile must be kept dry and free of any moisture damage.
 3. Carpet tile must be clean of any non-carpet debris.
 2. **Removal of performance broadloom for recycling.**
 1. Performance broadloom should be rolled, palletized and secured for shipping. Cut pieces of performance broadloom are also acceptable, secured for shipping.
 2. Performance broadloom must be kept dry and free from moisture damage.
 3. Rolls must be clean of any non-carpet debris.
 3. **Removal of broadloom carpet for downcycling.**
 1. Rolled carpet should not exceed six (6) feet in length x one (1) foot diameter.
 2. Carpet must be accumulated and kept dry for shipping and processing.
 3. Rolls must be clean of any non-carpet debris.
 4. **Repurposing of carpet material.**
 1. Approval of old carpet for possible donation will be determined at the jobsite.

2. All possible recycling options must be clearly presented and/or submitted on paper subsequent to job start.
3. A certificate will be furnished upon request verifying the reclamation of the carpet and the pounds of material diverted from the landfill.

3.2 Installation

1. General

1. Comply with manufacturer's instructions and recommendations. A "no-glue" method of installation is preferred using materials described in 2.4.2 above. In the event a releasable glue method of installation is required, the following adhesive description applies. Adhesive must be water-based and allow for removal of carpet tile at any time without damage to carpet or substrate. Adhesive must contain antimicrobial preservative and have "zero" calculated VOC's.
2. Install carpet under open-bottom obstructions and under removable flanges and furnishings, and into alcoves and closets of each space.
3. Provide cut outs where required. Conceal cut edges with protective edge guards or overlapping flanges.
4. Run carpet under open bottom items such as heating convectors and install tight against walls, columns and cabinets so that the entire floor area is covered with carpet. Cover over all floor type door closures.
5. Install edging guard at all openings and doors wherever carpet terminates, unless indicated otherwise.
6. Cutting shall be done in accordance with the manufacturer's recommendation, using the tools designed for the carpet being installed.
7. Use leveling compound where necessary. Any floor filling or leveling shall have a minimum of 4'0" of feather.
8. Expansion joints - Do not bridge building expansion joints with continuous carpeting.

2. INSTALLATION

1. Install carpet according to carpet manufacturer's printed instructions and in accordance with the Carpet and Rug Institute's Installation Standard.
2. "Chair Pads" shall not be recommended or required within installation instructions.

3.3 Cleaning and Protection

1. On completion of the installation in each area, all dirt, carpet scraps, etc. must be removed from the surface of the carpet.
2. Remove debris, and sort pieces to be saved from scraps to be redirected and recycled.
3. Construction manager shall protect carpeting against damage during construction.
4. At the completion of the work and when directed by the construction manager, vacuum carpet using commercial dual motor vacuum of type recommended by carpet manufacturer. Remove spots and replace carpet where spots cannot be removed. Remove rejected carpeting and replace with new carpeting. Remove any protruding yarns with shears or sharp scissors.

3.4 Inspection

1. Upon completion of the installation, verify that work is complete, properly installed and acceptable.
2. Preliminary Acceptance - Upon completion of the carpet installation of each floor, it shall be inspected by owner, the construction manager and installation provider.

3.5 Environmental Impact and Measurements. The manufacture of all modular carpet tile must meet the following criteria:

1. Greenhouse gas emissions from purchased electricity and on-site combustion attributable to the manufacturing location (including outsourcing) must not exceed 2 lb of carbon dioxide per square meter (1.75 lbs/yd²).
2. Non renewable energy per unit of production at the manufacturing location (including outsourcing) must not exceed 15,000 BTU per square meter (12,542 BTU per square yard).
3. Solid waste generated at the manufacturing location (including outsourcing) regardless of disposal method must not exceed 0.5 lbs per square meter (0.42 lbs per square yard).
4. Water intake for manufacturing purposes at the manufacturing location (including outsourcing) must not exceed 1 gallon per square meter (0.83 gallons per square yard).

3.6 CARPET RECYCLING

Modular carpet tile manufacturer must meet the following criteria:

1. Must have a closed loop “takeback/recycling” program that specifically allows for reclamation of each of the product types produced in manufacturing history, nylon face and backing.