

DURABLE ACOUSTICAL COMFORT

SECTION 09 05 71 ACOUSTIC UNDERLAYMENTS

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PART 1 GENERAL

- 1.1 SECTION INCLUDES
 - A. Acoustic underlayments. (DURA-SON) (DURA-SON MB) (DURACOUSTIC) (DURAQUIET)
 - B. Carpet cushions. (PROTECTOR) (DURACUSHION) (DURALUX) (SUPER DURA)

1.2 RELATED SECTIONS

- A. Section 03 35 19 Colored Concrete Finishing.
- B. Section 03 30 00 Cast-in-Place Concrete.
- C. Division 09 Adhered Flooring Sections.

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.
 - 2. ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.
 - 3. ASTM E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
 - 4. ASTM E1007 Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures.
 - 5. ASTM D1055 Standard Specification for Flexible Cellular Rubber Chemically Blown
 - 6. ASTM D2859 Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 Administrative Requirements.
- B. Product Data:
 - 1. Manufacturer's data sheets on each product to be used.
 - 2. Preparation instructions and recommendations.



- 3. Storage and handling requirements and recommendations.
- 4. Typical installation methods.
- C. Verification Samples: Two representative units of each type, size, pattern, and color.
- D. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
- D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
 - 1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
 - 2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
 - 3. Retain mock-up during construction as a standard for comparison with completed work.
 - 4. Do not alter or remove mock-up until work is completed or removal is authorized.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
- 1.7 DELIVERY, STORAGE, AND HANDLING
 - A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
 - B. Protect from damage due to weather, excessive temperature, and construction operations.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
- 1.9 WARRANTY
 - A. Manufacturer's standard limited warranty unless indicated otherwise.

PART 2 PRODUCTS

- 2.1 MANUFACTURERS
 - A. Acceptable Manufacturer: Dura-Undercushions, which is located at: 8525 Delmeade Rd.; Montreal, QC, Canada H4T 1M1; Toll Free Tel: 800-295-4126; Tel: 514-737-6561; Fax: 514-342-7940; Email:request info (info@dura-undercushions.com);



Web:<u>https://www.duracushion.com</u>

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 Product Requirements.

2.2 ACOUSTIC UNDERLAYMENT

- A. Basis of Design: DURA-SON 3.5 mm High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. A high performance acoustic underlayment for laminate and engineered hardwood floors.
 - 1. Thickness: 1/8 inch (3.5 mm).
 - 2. "R" Value: 0.32.
 - 3. Mass: 40 oz per sq yd (1.356 kg per sq m).
 - 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
 - 5. Tensile: 214 N per 5 cm.
 - 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
 - 7. Roll size: 24 sq yd (20 sq m).
 - 8. Roll Weight: 60 lbs (27.2kg).
 - 9. Roll Width: 54 inches (1372 mm).
 - 10. Roll Length: 48 ft (4.63 m).
 - 11. Roll Diameter: 10 inches (254 mm).
 - 12. Coverage: 216 sq ft (20.1 sq m).
 - 13. Acoustical Value: FIIC 69 per ASTM E1007- Impact Sound Transmission with no suspended ceiling.
 - 14. Moisture Protection: N/A.
 - 15. Water Vapor Transmission Rate: N/A.
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
 - 18. Radiant Heated Floors: Suitable for radiant heated floor.
 - 19. Flammability perASTM D2859: Passes the Pill Test.
- B. Basis of Design: DURA-SON 3.5 mm MB High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. acoustic underlayment with vapor barrier for laminate and engineered wood floors. Ideal for floating installations in condominiums, hotels, commercial spaces, and private residences.
 - 1. Thickness: 1/8 inch (3.5 mm).
 - 2. "R" Value: 0.32.
 - 3. Mass: 40 oz per sq yd (1.356 kg per sq m).
 - 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
 - 5. Tensile: 214 N per 5 cm.
 - 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
 - 7. Roll size: 24 sq yd (20 sq m).
 - 8. Roll Weight: 60 lbs (27.2kg).
 - 9. Roll Width: 54 inches (1372 mm).
 - 10. Roll Length: 48 ft (4.63 m).
 - 11. Roll Diameter: 10 inches (254 mm).
 - 12. Coverage: 216 sq ft (20.1 sq m).
 - 13. Acoustical Value: FIIC 69 per ASTM E1007- Impact Sound Transmission with no suspended ceiling.
 - 14. Moisture Protection: 3 mil Polyethylene.
 - 15. Water Vapor Transmission Rate per ASTM E96: 0.0009 grams per hour per sq ft (0.010 grams per hour per sq m).
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.



- 18. Radiant Heated Floors: Suitable for radiant heated floor.
- 19. Flammability per ASTM D2859: Passes the Pill Test.
- C. Basis of Design: DURACOUSTIC 8 mm High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. A simple and effective solution to create an acoustics system for apartment buildings such as condominiums, hotels, commercial spaces, and private residences. All tests were performed at the National Research Council of Canada (NRC).
 - 1. Thickness: 5/16 inches (8 mm).
 - 2. "R" value: 0.52.
 - 3. Mass: 87 ounces per sq yd (2950 grams per sq m).
 - 4. Density: 22 lbs per cu ft (354.4 kg per cu m).
 - 5. Tensile: 214 N per 5 cm.
 - 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
 - 7. Roll size: 12 sq yd (10 sq m).
 - 8. Roll Weight: 65 lbs (29.5 kg).
 - 9. Roll Width: 54 inches (1372 mm).
 - 10. Roll Length: 24 ft (7.3 m).
 - 11. Roll Diameter: 11 inches (279 mm).
 - 12. Coverage: 108 sq ft (10.0 sq m).
 - 13. Acoustical Value: IIC 57 / ASTM E492- Impact Sound Transmission / STC 58 / ASTM E90 Airborne Sound Transmission.
 - 14. Moisture Protection: N/A.
 - 15. Water Vapor Transmission Rate: N/A.
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
 - 18. Radiant Heated Floors: Suitable for radiant heated floor.
 - 19. Flammability per ASTM D2859: Passes the Pill Test.
- D. Basis of Design: DURAQUIET 3 mm High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. A strong, tear resistant underlayment to be used for superior sound control for condominiums, hotels, commercial spaces, and private residences. Acoustic and Antifracture Underlayment for Ceramic and Stone Tile, Residential and Light Commercial.
 - 1. Thickness: 1/8 inch (3 mm).
 - 2. "R" value: 0.2.
 - 3. Mass: 66 oz per sq yd (2.238 kg per sq m).
 - 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
 - 5. Tensile: N/A.
 - 6. Content: Minimum 85 percent recycled rubber.
 - 7. Roll size: 16.67 sq yd (13.94 sq m).
 - 8. Roll Weight: 69 lbs (31.3 kg).
 - 9. Roll Width: 60 inches (1524 mm).
 - 10. Roll Length: 30 ft (9.144 m).
 - 11. Roll Diameter: 8 inches (203 mm).
 - 12. Coverage: 150 sq ft (13.94 sq m).
 - 13. Acoustical Value: FIIC 53 / ASTM E 1007- Impact Sound Transmission with no suspended ceiling.
 - 14. Moisture Protection: N/A.
 - 15. Water Vapor Transmission Rate: N/A.
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
 - 18. Radiant Heated Floors: Suitable for radiant heated floor.
 - 19. Flammability per ASTM D2859: Passes the Pill Test.
- 2.3 CARPET CUSHIONS



- A. Basis of Design: PROTECTOR 5 mm High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. A high quality commercial and residential carpet cushion made for high traffic areas. Heavy Commercial Carpet Cushion Class 1,2, and 3.
 - 1. Thickness: 3/16 inches (5 mm).
 - 2. "R" value: 0.46.
 - 3. Mass: 54 oz per sq yd (1831 grams per sq m).
 - 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
 - 5. Tensile: 214. N per 5 cm.
 - 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
 - 7. Roll size: 20 sq yd (16.7 sq m).
 - 8. Roll Weight: 68 lbs(30.8 kg).
 - 9. Roll Width: 54 inches (1372 mm).
 - 10. Roll Length: 40 ft (12.132 m).
 - 11. Roll Diameter: 11 inches (279 mm).
 - 12. Coverage: 180 sq ft (16.7 sq m).
 - 13. Acoustical Value: FIIC 73 / ASTM E 1007- Impact Sound Transmission with a 35 oz carpet.
 - 14. Moisture Protection: N/A.
 - 15. Water Vapor Transmission Rate: N/A.
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
 - 18. Radiant Heated Floors: Suitable for radiant heated floor.
 - 19. Flammability per ASTM D2859 Class 1: Passes the Pill Test.
 - a. ASTM E648 Radiant Panel Test as an assembly with a Class 1 commercial carpet.
- B. Basis of Design: DURACUSHION 6mm High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. a high quality commercial and residential carpet cushion made for high traffic areas. Heavy Commercial Carpet Cushion Class 1,2 and 3.
 - 1. Thickness: 1/4 inch (6 mm).
 - 2. "R" value: 0.52.
 - 3. Mass: 64 oz per sq yd (2.170 kg per sq m).
 - 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
 - 5. Tensile: 214. N per 5 cm.
 - 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
 - 7. Roll size: 18 sq yd (15 sq m).
 - 8. Roll Weight: 72 lbs (32.7 kg).
 - 9. Roll Width: 54 inches (1372 mm).
 - 10. Roll Length: 36 ft (10.973 m).
 - 11. Roll Diameter: 11 inches (279 mm).
 - 12. Coverage: 162 sq ft (15 sq m).
 - 13. Acoustical Value: FIIC 76 / ASTM E 1007- Impact Sound Transmission with a 35 oz carpet.
 - 14. Moisture Protection: N/A.
 - 15. Water Vapor Transmission Rate: N/A.
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
 - 18. Radiant Heated Floors: Suitable for radiant heated floor.
 - 19. Flammability per ASTM D2859 Class 1: Passes the Pill Test.
 - a. ASTM E648 Radiant Panel Test as an assembly with a Class 1 commercial carpet.
- C. Basis of Design: DURALUX 7 mm. High Performance Acoustic Underlayment as manufactured by Dura Undercushions Ltd. a high quality commercial and residential carpet cushion with a jute backing. Heavy Commercial Carpet Cushion Class 1,2 and 3,
 - 1. Thickness: 9/32 inches (7 mm).



- 2. "R" value: 0.58.
- 3. Mass: 74 oz per sq yd (2.509 kg).
- 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
- 5. Tensile: 200 N per 5 cm.
- 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
- 7. Roll size: 15 sq yd (12.5 sq m).
- 8. Roll Weight: 69 lbs (31.3 kg).
- 9. Roll Width: 54 inches (1372 mm).
- 10. Roll Length: 30 ft (9.144 m).
- 11. Roll Diameter: 11 inches (279 mm).
- 12. Coverage: 135 sq ft (12.5 sq m).
- 13. Acoustical Value: FIIC 77 / ASTM E 1007- Impact Sound Transmission with a 35 oz carpet.
- 14. Moisture Protection: N/A.
- 15. Water Vapor Transmission Rate: N/A.
- 16. Green Quality: CRI Green Label Plus approved.
- 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
- 18. Radiant Heated Floors: Suitable for radiant heated floor.
- 19. Flammability per ASTM D2859 Class 1: Passes the Pill Test.
 - a. ASTM E648 Radiant Panel Test as an assembly with a Class 1 commercial carpet.
- D. Basis of Design: SUPER DURA 10 mm. High quality residential carpet cushion as manufactured by Dura Undercushions Ltd. a product offering a strong thickness which adds comfort to your carpet. Residential.
 - 1. Thickness: 10 mm
 - 2. "R" value: 0.88
 - 3. Mass: 106 oz per sq yd (3.594 g per sq m).
 - 4. Density: 22 lbs per cu ft (352.4 kg per cu m).
 - 5. Tensile: 214 N per 5 cm.
 - 6. Content: Minimum 85 percent recycled rubber bonded with synthetic rubber.
 - 7. Roll size: 10 sq yd (8.4 sq m).
 - 8. Roll Weight: 66 lbs (93.9 kg).
 - 9. Roll Width: 54 inches (1372 mm).
 - 10. Roll Length: 20 ft (6.1 m).
 - 11. Roll Diameter: 11 inches (279 mm).
 - 12. Coverage: 90 sq ft (8.4 sq m).
 - 13. Acoustical Value : FIIC 78 / ASTM E 1007- Impact Sound Transmission with a 35oz carpet.
 - 14. Moisture Protection: N/A.
 - 15. Water Vapor Transmission Rate: N/A.
 - 16. Green Quality: CRI Green Label Plus approved.
 - 17. Anti-Microbial: Naturally resists mold, mildew, and fungus growth.
 - 18. Radiant Heated Floors: Suitable for radiant heated floor.
 - 19. Flammability per ASTM D2859 Class 1: Passes the Pill Test.
 - a. ASTM E648 Radiant Panel Test as an assembly with a Class 1 commercial carpet.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly constructed and prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.



3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
- B. DURA-SON 3.5 mm:
 - 1. Make sure the surface is clean and dry. We recommend the installation of a vapor barrier on a cement base if the installation is in a humid environment.
 - 2. Install with the rubber side facing down.
 - 3. Floating Floors i.e. laminate or engineered hardwood, DURA-SON must be simply placed, and not glued, on the floor.
 - 4. For Glued Floors (Hardwood Engineering):
 - a. DURA-SON on the Floor: Use a good quality, multi-purpose glue.
 - b. DURA-SON with Engineered Wood: Use a urethane-based adhesive.
 - 5. Can be installed parallel or perpendicular to the floor.
 - 6. Tape joints with duct tape. Always follow manufacturer's instructions.
- C. DURA-SON 3.5 mm MB:
 - 1. Make sure the surface is clean and dry.
 - 2. For floating installations only.
 - 3. Install rubber side facing down.
 - 4. Can be installed parallel or perpendicular to the floor.
 - 5. Joints must be closed as hermetically as possible and taped with a vapor barrier tape (red Tuck tape). Always follow the manufacturer's instructions.
- D. DURACOUSTIC:
 - 1. The floor must be solidly structured, flat, and dry.
 - 2. Install underlayment rubber side down. Join seams together with red Tuck tape.
 - 3. Install polyethylene foam or fiberglass board at perimeter all over floor and around all protrusions during installation. This prevents sound transmission between wall and floor. Tape or tack-glue the isolation material.
 - 4. Gypsum Concrete: When the coating is gypsum concrete, follow manufacturer's instructions.
 - 5. Cement Board, 2 Layers: 1/2 inch (13 mm) cement board must be at 90 degrees in relation to each other; non-adjacent joints with a minimum offset of 8 inches (203 mm) and spaced 1/4 inch (6 mm) between the units.
 - a. Cover joints with a fiberglass tape of 2 inch (51 mm) glass embedded in ceramic mortar. The panels must be glued to each other with 1/4 inch (6 mm) square trowel (full coverage). Leave a space of 1/4 inch (6 mm) at the perimeter of the floor. Fill this gap with acoustic sealant.
 - 6. Plywood: Plywood should be 1/2 inch (13 mm) for a floor hardwood and 3/8 inch (10 mm) for ceramic, vinyl, carpet, and underlay. The two sheets of plywood should be 90 degrees to each other, the joints gapped and offset. The top sheet glued to the bottom sheet (completely covered, do not use water-based product). The two layers fastened by screws in the corners and in the center and must not penetrate the DURACOUSTIC in order to prevent sound transmission.
 - 7. Always follow the manufacturer's instructions.
- E. DURAQUIET:



- 1. Installation for Ceramic and Natural Tile.
 - a. Follow guidelines of manufacturer of ceramic and tile.
 - b. Installation requirements for subfloors must conform to TCA or TCC standards.
 - c. Sub-floors of cement must be dry, free from dust, grease, wax, paint, oils, or any other product that could affect adhesion.
 - d. Sub-floors must be checked to determine if there is excessive humidity. If a waterproofing membrane is required, please specify one of the following:
 - 1) Redgard.
 - 2) Tech Hydraflex.
 - e. The surfaces not of level must be prepared by the general contractor with a self-leveling product.
 - f. Install an edge insulating on the perimeter of the sub-floor near walls and around protrusions.
 - g. Adhere the DURAQUIET to the substrate with a urethane-based adhesive. Butt the edges together.
 - h. To ensure a good adhesion, pass a 50 to 75 lbs roller widthwise, then lengthwise.
 - i. Make the application of mortar above the DURAQUIET, following the manufacturer's instructions.
- 2. Installation for Vinyl Flooring:
 - a. Follow the vinyl manufacturer's instructions.
 - b. Cement sub-floors must be dry, free from dust, grease, wax, paint, oils. or any other product that could affect the adhesion of DURAQUIET.
 - c. Subfloors should be checked to determine if there is excessive moisture. If waterproofing membrane is required, please specify:
 - 1) Redgard.
 - 2) Tech Hydraflex.
 - d. Surfaces which are not level must be prepared by the general contractor with a self-leveling product.
 - e. Adhere the DURAQUIET with a urethane-based glue. Butt the edges together.
 - f. To ensure good adhesion, run a roller of 50 to 75 lbs crosswise, then length.
 - g. Seal DURAQUIET with a moisture-cured urethane adhesive.
 - h. Adhere the vinyl tile or vinyl floor to DURAQUIET with a acrylic adhesive recommended by the manufacturer of vinyl.
- F. PROTECTOR 5 mm, DURACUSHION, and DURALUX 7 mm.
 - 1. Double Bonding Installation:
 - a. Cushion should be laid rubber side down in the longest length possible.
 - b. The seams of the cushion should be at right angles to the seams of the carpet. If this is not possible, they should be at least 6 inches from the carpet seams. It is also advisable to dry lay the carpet at this stage.
 - c. Using a good quality multipurpose adhesive with an appropriate trowel, spread the adhesive uniformly over the floor surface. Follow the adhesive manufacturer's instructions.
 - d. After the waiting time indicated by the manufacturer, press the cushion rubber side of the mat into the adhesive. Butt the cushion seams, and effect tight, even seams. Make sure the contact is made with the adhesive by deploying medium pressure on the underlay with a roller.
 - e. Cut the excess carpet pad to fit the size of the room.
 - f. Spread premium multipurpose adhesive on the cushion with a trowel following the manufacturer's instructions. After the indicated set up time, install the carpet on the carpet pad where the adhesive has already been spread.
 - g. The carpet must be prepared and installed according to the manufacturer's recommendations. Particular attention must be paid to the joints and to rolling the final installation.



- h. Allow the adhesive to dry after installation before allowing any traffic.
- i. Adhesive and Trowel: For installation of cushion to floor, use one of the following or any equivalent alternative.
 - 1) ROBERTS 3095 with "V" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm).
 - 2) MAPEI ECO 185 with "V" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm).
 - 3) MAPEI ECO 220 with "V" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm).
- j. Installation of Action-Back Carpet to Cushion: Use one of the following or any equivalent alternative.
 - 1) ROBERTS MAX 3300 with "U" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm).
 - 2) MAPEI ULTRA / BOND ECO 350 with "V" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm). A 7 year warranty limit.
 - 3) MAPEI ECO 220 with "V" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm). A 5 year warranty limit.
 - 4) MAPEI ECO 185 with "V" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 3 mm). A 3 year warranty limit.
- k. Installation of Unitary Backed Carpet to Cushion: Use one of the following or any equivalent alternative.
 - 1) ROBERTS MAX 3300 with "U" trowel 1/8 x 1/8 x 1/16 inch "V" trowel (3 x 3 x 1.5 mm).
 - MAPEI ULTRA / BOND ECO 350 with "U" trowel 1/8 x 1/8 x 1/8 inch (3 x 3 x 1.5 mm).
 - MAPEI ECO 220 with "V" trowel 1/8 x 1/8 x 1/16 inch (3 x 3 x 1.5 mm).
 a) MAPEI ECO 185 with "V" trowel 1/8 x 1/8 x 1/8 inch.
- G. PROTECTOR 5MM and DURACUSHION 6 mm Stair Installation:
 - 1. Install cushion black side facing down.
 - 2. Measure and cut carpet cushion to the width of the carpet runner minus approximately 1/4 to 1/2 inch (6 to 12 mm).
 - 3. Cut cushion for each stair tread, to fit the tread including the nosing.
 - 4. Stretch the cushion in place and staple the cushion.
 - 5. Do not install the cushion on the riser.
 - 6. Follow the carpet manufacturer's guidelines.
- H. SUPER DURA 10 mm:
 - 1. Make sure the surface is clean and dry.
 - 2. The carpet cushion must be laid with the rubber side facing down and in its longest length possible.
 - 3. Butt the cushion seams, and effect tight, even seams. Tape all seams with duct tape.
 - 4. Cut excess carpet cushion to fit the size of the room.
 - 5. The carpet must be prepared and installed in accordance with manufacturer's recommendations.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.
- B. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

3.5 CLEANING AND PROTECTION

- A. Clean products in accordance with the manufacturer's recommendations.
- B. Touch-up, repair or replace damaged products before Substantial Completion.



END OF SECTION