



**SOUND  
INSULATION**

# **QT Technical Manual**

## **Installation & Warranty**

Manufactured in the U.S.A by

**ecore™**

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Supersedes all previous versions  
Check website for updates

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## GENERAL INFORMATION

The QT line of products for impact sound insulation are engineered to provide better performance than any other sound control product available, and have been rigorously tested to achieve proven results. It can be installed under most types of grouted, glued, and floating floors, including ceramic tile, stone, marble, brick, pavers, hardwood, engineered wood, laminate, parquet, LVT, and carpet. Sheet vinyl is not an approved installation method over the QT sound mat. All floor covering assemblies shall have prior approval before installation.

### I JOB SITE CONDITIONS

Areas to receive QT should be weather tight and maintained at minimum, a constant room temperature of 65°F (10°C) for 48 hours before, during, and after installation.

### II SUBFLOOR REQUIREMENTS & PREPARATION

#### A. GENERAL

**NOTE:** Please follow the subfloor requirements and preparation recommendations determined by the flooring manufacturer, when no such recommendations exist for the floor finishing product.

1. All subfloors/substrates must be inspected prior to installation.
2. Install QT over concrete, gypsum, approved self-leveling materials, and wood.
3. Wood subfloors should be double construction, rigid, and free from movement.
4. Wood subfloors (when installed with grouted floor coverings like tile) must be prepared according to ANSI L/360 standards, or as required by the floor covering manufacturer.

**NOTE:** Particleboard, “chipboard,” masonite, and lauan are not suitable underlayments.

5. Concrete floors must be fully cured and permanently dry. Subfloor shall be dry, clean, smooth, level, and structurally sound. It should be free of dust, solvent, paint, wax, oil, grease, asphalt, sealers, curing and hardening compounds, alkaline salts, old adhesive residue, and other extraneous materials, according to ASTM F710.
6. Subfloor should be smooth to prevent irregularities, roughness, or other defects from telegraphing through the material. The surface should be flat to the equivalent of 3/16” (3.9mm) in 10’ or as recommended by the flooring manufacturer.
7. Mechanically remove all traces of old adhesives, paint, or other debris by scraping, sanding, or scarifying the substrate. DO NOT use solvents.
8. Grind high spots until level and fill low spots with an approved patching/leveling compound.
9. All saw cuts (control joints), cracks, indentations, and other non-moving joints in the concrete must be filled with a Portland-based patching/leveling compound and dried thoroughly.
10. Any concrete subfloor can be a source of moisture-related flooring failures. It is the installer’s responsibility to test the concrete or other cement-like material for moisture.
11. The maximum concrete moisture content or RH (Relative Humidity) must be measured using the ASTM F2170 standard test method.
  - A. Concrete substrates and any thickness of QT
    - i) E-Grip III – RH limit of 85% – normally selected
    - ii) E-Grip 95 – RH limit of 95% – higher RH applications
    - iii) E-Grip 99 – RH limit of 99% – highest RH applications
  - B. Gypsum, concrete substrates and up to 5mm QT
    - i) E-Grip Evolve – RH limit of 80%

If levels are higher, then the installation must not proceed until the problem is corrected.

12. In the event that a moisture mitigation system is required, it must conform to the ASTM F3010 Standard Practice for Two-Component Resin Based Membrane Forming Moisture Mitigation Systems for use Under Resilient Floor Coverings. In addition, the finished prepared surface on which the flooring is to be installed must conform to the ASTM F710 standards.
13. Perform pH tests on all concrete floors. If greater than the allowable limit of the selected Ecore adhesive, neutralize prior to installation.
14. If using other approved adhesives, please refer to manufacturer's acceptable limits.

### III HAZARDS

#### A. SILICA WARNING

1. Concrete, floor patching compounds, toppings, and leveling compounds can contain free crystalline silica. Cutting, sawing, grinding, or drilling concrete can produce respirable crystalline silica (particles 1-10 micrometers). Respirable silica is classified by OSHA as an IA carcinogen and is known to cause silicosis and other respiratory diseases. Avoid actions that cause dust to become airborne. Use local or general ventilation or protective equipment to reduce exposure below applicable exposure limits.

#### B. LEAD WARNING

1. Certain paints may contain lead. Exposure to excessive amounts of lead dust presents a health hazard. Refer to applicable federal, state, and local laws and the publication, *Lead Based Paint: Guidelines for Hazard Identification and Abatement in Public and Indian Housing*, available from the United States Department of Housing and Urban Development.

#### C. ASBESTOS WARNING

1. Resilient flooring, backing, lining felt, paint, or asphaltic "cutback" adhesives could contain asbestos fibers. Avoid actions that cause dust to become airborne. DO NOT sand, dry sweep, dry scrape, drill, saw, beadblast, mechanically chip, or pulverize. Regulations may require that the material be tested to determine asbestos content. Consult the documents titled, *Recommended Work Practices for Removal of Existing Resilient Floor Coverings*, available from the Resilient Floor Covering Institute.

### IV MATERIAL STORAGE AND HANDLING

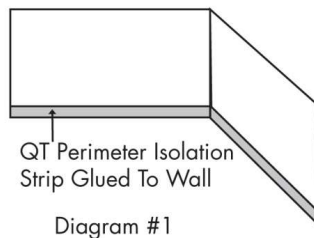
#### A. GENERAL

1. Deliver the material to the job site in its original unopened packaging with all labels intact and stored appropriately to prevent damage.
2. Inspect all material for visual defects before beginning the installation. Ecore will honor no labor claim on material installed with any visually apparent defects.
3. Verify the material delivered is the correct type, thickness, and amount. Report any discrepancies immediately.
4. The material and any adhesive must be acclimated at room temperature for a minimum of 24 hours before starting the installation.
5. Roll material is stretched slightly when it is rolled at the factory. At the job site, the installer should allow all cuts to relax before gluing down. Shaking the material once it is unrolled can help it to relax more quickly.

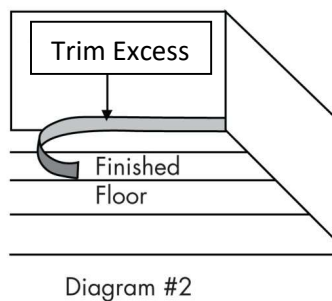
## V INSTALLATION OF PERIMETER ISOLATION STRIPS

**NOTE: It is essential to FIRST install the Perimeter Isolation Strip before placing and trimming the QT Impact Sound Insulation Material!** The Perimeter Isolation Strip isolates the floor from the wall and breaks the vibration transmission path.

1. Temporarily fasten the QT Perimeter Isolation Strip to the perimeter wall of the entire subfloor, as well as around the perimeter of any protrusions, in order to isolate or break the vibration transmission path between the floor and the wall (see diagram #1).



2. Temporarily fasten the QT Perimeter Isolation Strip in place with masking tape, duct tape, carpet tape, or spot gluing. **The Perimeter Isolation Strip should be secured at the bottom only as the top will later be trimmed flush with the new top layer of flooring.**
3. Install the finished floor in accordance with the flooring manufacturer's directions. After installing the finished floor, trim the excess perimeter isolation strip around the entire perimeter of the finished floor (see diagram #2).



## VI QTrbm

QTrbm (resilient base mat) is a dimpled, resilient base mat for installation under gypsum or full weight concrete to produce some of the thinnest sound rated systems in the industry. QTrbm is also available with a vapor barrier membrane (identified by a "W" suffix).

### A. INSTALLING QTrbm

1. **FIRST** attach the Perimeter Isolation Strip to the wall as described above.
2. Assume the walls you are butting up against are not square. Using a chalk line, create a starting point for an edge of the material to follow.
3. If you have not already done so, remove the shrink-wrap from the roll of QTrbm and unroll it onto the floor. Shaking the material once it is unrolled can help it to relax.

4. Always lay the QTrbm so that the **dimples are down against the subfloor**. Some variations of QTrbm are available with a vapor barrier membrane laminated to the flat (top) surface. Install the QT so this flat surface with membrane is on top.
5. Trim the ends of each section as necessary in order to fit the surface area to be covered. Maintain the required ambient conditions for any adhesive application and bonding.
6. Align the lengthwise edge of the material exactly with that of the neighboring section. Edges must contact but not overlap.
7. Dry lay the rolls onto the subfloor with duct or carpet tape to hold all seams together.

**B. INSTALLATION OF GYPSUM TOPPING**

**Please note: Urethane adhesives are not suitable over gypsum.**

1. Install gypsum underlayment to a minimum thickness of 1" and according to the gypsum manufacturer. Thickness of the gypsum may depend on the thickness of the QTrbm layer.
2. Properly heat and ventilate the building interior before, during, and after the installation of the gypsum product with a constant room temperature of 50°F (min.) and controlled humidity of 50% (max.) per gypsum manufacturer to properly dry gypsum prior to QT installation. Under these conditions, a 1" thick gypsum floor underlayment should be dry in about 7 to 10 days.
3. Ventilate space for moisture evaporation.

**NOTE:** A building without all of these conditions present will significantly increase the drying time of the gypsum product.

4. Before applying the sealer or installing the finished floor goods, be sure the gypsum underlayment is sufficiently dry by testing it, using the plastic sheet method per ASTM D4263, or as recommended by the gypsum manufacturer.
5. Install the finished floor in accordance with the flooring manufacturer's directions. After installing the finished floor, trim the excess Perimeter Isolation Strip around the entire perimeter of the finished floor (see diagram #2).

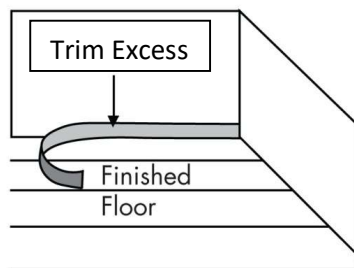


Diagram #2

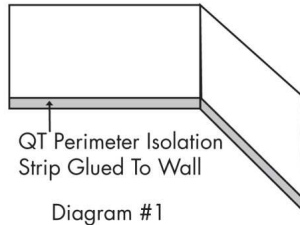
**VII QTscu**

QTscu (sound control underlayment) is a flat, resilient underlayment that is used directly under a variety of floor finishes, including ceramic tile, LVT, wood, laminate, and stone.

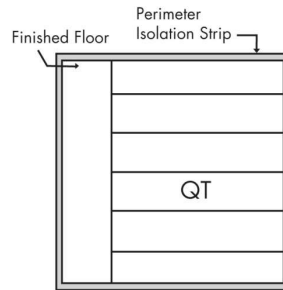
**NOTE: It is essential to FIRST install the Perimeter Isolation Strip before placing and trimming the QT Impact Sound Insulation Material!** The Perimeter Isolation isolates the floor from the wall and breaks the vibration transmission path.

A. Installing QTscu

1. **FIRST** Attach the Perimeter Isolation Strip to the wall (see diagram #1) at the bottom of the Perimeter Isolation Strip. It will be trimmed later at the height of the finished floor.



2. Assume the walls you are butting up against are not square. Using a chalk line, create a starting point for an edge of the material to follow.
3. If you have not already done so, remove the shrink-wrap from the roll and unroll it onto the floor. Allow to relax 2 hours. Shaking the material once it is unrolled can help it to relax.
4. Place the QTscu material so that it is perpendicular to the subsequent installation direction of the topping material (see diagram #3).



5. Trim as necessary to fit surface area to be covered. You may trim section ends to exact dimensions required (e.g. joints with walls, etc.).
6. Align the lengthwise edge of the material exactly with that of the neighboring section. Edges must contact but not overlap.

B. GLUING QTscu

**NOTE: When using grouted or fully adhered flooring materials, QTscu shall be fully adhered to the substrate with a suitable adhesive. No substitutions are permitted. QTscu may be loose laid for floating floors.**

1. After the QTscu is rolled out and allowed to relax, fold the material back halfway (half the width of the roll). Spread adhesive using the proper notch trowel:
  - a. Less than 4mm QTscu – Use a 1/16" x 1/32" x 5/64" U notched trowel
  - b. 4mm and thicker – Use a 1/16" square notched trowel.

**NOTE: Ecore recommends using E-Grip III when installing grouted materials, or for QTscu thicknesses greater than 5mm. If using a differently specified adhesive when installing grouted materials, follow manufacturer's specifications for its use and installation.**

**NOTE: Temperature and humidity affect the open time of adhesive. The installer should monitor on-site conditions and adjust open time accordingly.**

2. Carefully lay the material into the wet adhesive. DO NOT let the material to “flop” into place because this will trap air beneath the material.
3. Fold over second half of first sheet and first half of second sheet (see diagram #4).

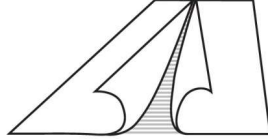


Diagram #4

1. Spread the adhesive. At seam area, spread adhesive at 90 degrees to seam to prevent excessive adhesive oozing up to the surface of the material. Never leave adhesive ridges or puddles, as they may telegraph through the material.
2. Continue the process for each consecutive drop. Always work at a pace so you are always folding material back into wet adhesive.
3. Use a 35 to 75 lb roller to roll over the floor within 45 minutes to ensure proper transfer of adhesive. Overlap each pass of the roller by 50% of the previous pass to ensure that the floor is properly rolled.
4. Repeat procedure for all sections of QT until room is finished.

## VIII ALTERNATIVE INSTALLATION METHODS

### A. GENERAL

1. Follow the flooring manufacturer’s directions for installing the flooring. Use their recommended adhesives, procedures, and equipment.
2. **Do not mechanically fasten any material through QT. Any mechanical connection, such as nails, screws, staples, etc., will transmit noise through to the building structure, compromising the performance of the QT.**

### B. FLOATING FLOORING

**NOTE: Gluing down QTscu is not required for floating floors.**

1. Attach Perimeter Isolation Strip (per above).
2. Dry lay the rolls onto the subfloor with duct or carpet tape to hold all seams together.

### C. USING BOTH QTrbm (dimpled) AND QTscu IN THE SAME ASSEMBLY

1. The QTrbm (dimpled) is normally installed first; install the QTrbm material per instructions above.
2. Install gypsum or other underlayment material installed per manufacturer’s recommendations.
3. Once cured or hardened to the gypsum manufacturer’s specifications, install the QTscu per instructions above.

### D. SHEET VINYL OR LUXURY VINYL TILE AND PLANK

1. **Sheet vinyl is not an approved installation method over the QT sound mat. Please contact ECORE for factory laminated sheet vinyl products.**
2. For LVT installation, refer to the LVT manufacturer’s instructions.

### E. GLUE DOWN WOOD FLOORING – install directly to QTscu per flooring manufacturer’s recommended adhesive and instructions.

### F. NAILED DOWN WOOD FLOORING

1. Follow the flooring manufacturer’s directions for installing the flooring. Use their recommended adhesives, procedures, and equipment.



2. **Do not mechanically fasten any material through ECOsilence. Any mechanical connection, such as nails, screws, staples, etc., will transmit noise through to the building structure, compromising the performance of the ECOsilence.**

**G. CERAMIC OR PORCELAIN TILE**

1. Apply thin-set mortar directly onto the approved thickness of QTscu for grouted flooring.
2. Follow mortar and tile manufacturer's installation procedures.
3. Trim excess Perimeter Isolation Strip material flush with the surface of the finished floor after the flooring installation is complete.

**H. PLYWOOD OR CEMENT BOARD**

1. If a flooring manufacturer recommends the installation of a layer of plywood or cement board between the QTscu and the finished flooring, glue the recommended board using a suitable adhesive.
2. Apply adhesive to the QTscu using the manufacturer's recommended trowel size.
3. **Do not mechanically fasten any material through QT. Any mechanical connection, such as nails, screws, staples, etc., will transmit noise through to the building structure, compromising the performance of QT.**

**I. NAILED WOOD FLOORING**

1. Follow the flooring manufacturer's directions for installing the flooring. Use their recommended adhesives, procedures, and equipment.
2. **Do not mechanically fasten any material through QT. Any mechanical connection, such as nails, screws, staples, etc., will transmit noise through to the building structure, compromising the performance of the QT.**

**IX BASEBOARD**

**A. INSTALLATION OF BASEBOARD**

1. Only install baseboard **after Perimeter Isolation Strip has been trimmed flush to floor height.** See diagram 5.
2. **In order to isolate the floor from the wall and break the vibration transmission path, the baseboard must not touch the finished floor.**
3. Seal the entire perimeter with an ASTM C920 approved elastomeric joint sealant.

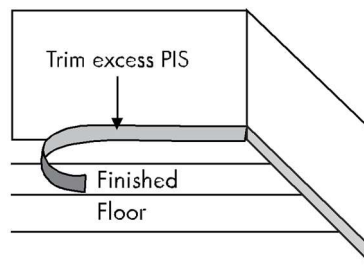


Diagram #5

## X RECOMMENDED MATERIALS

**NOTE:** All materials shall be delivered to the job site in the original containers with the manufacturer's identification on each package. Unauthorized modification to any product is not permitted.

### A. APPROVED URETHANE ADHESIVES

**Please note: The following urethane adhesives are ONLY suitable for Concrete and Portland-based patches and self-levelers. They are not suitable for gypsum.**

1. E-Grip III by Ecore (866) 326-5712
2. Bostik's Best
3. Bostik Green Fusion
4. Mapei Ultrabond ECO 980
5. Chemrex 941 by BASF

### B. APPROVED ACRYLIC ADHESIVE

1. E-Grip Evolve by Ecore (866) 326-5712
  - a. Ecore's E-Grip Evolve is approved for use over **gypsum substrates**.
  - b. Gypsum substrates **must first be primed** with one of the recommended primers listed below **prior to application** of the E-Grip Evolve adhesive.
  - c. Ecore's E-Grip Evolve is also approved for Sound Reducer thickness up to 5mm. For Sound Reducer thickness greater than 5mm, use a urethane from above list.

### C. APPROVED THIN-SET MATERIALS

1. ANSI A118.4 Standard Modified Dry-Set Cement Mortar
2. ANSI A118.15 Improved Modified Dry-Set Cement Mortar

### D. APPROVED GROUT MATERIALS

1. ANSI A118.6 Standard Performance Grout
2. ANSI A118.7 High Performance Grout
3. ANSI A118.8 Modified Epoxy Grout

### E. APPROVED GYPSUM PRIMERS

1. Mapei – Primer T
2. Ardex – P51
3. Bostik – Universal Primer
4. Specco S-55

### F. APPROVED CEMENTITIOUS BACKERBOARDS

1. ANSI A118.9 Standard Cementitious Backer Board Unit (CBU)

### G. APPROVED ACOUSTICAL SEALANT

1. ASTM C920 Standard Specification for Non-hardening Elastomeric Joint Sealant

## **Warranty**

Ecore offers a limited lifetime warranty on the QT brand of Impact Sound Insulation products against defects in material and workmanship, and QT shall meet all published specifications and perform effectively. Ecore warrants that during the warranty period, QT shall not harden, become brittle, chip, crack, tear, or exhibit any signs of excessive deterioration except for normal wear and tear. All other warranties, including implied warranties for a particular purpose, wear due to ultraviolet degradation, and uses and installations that are contrary to QT specifications, recommendations or instructions are expressly excluded. The sole remedy against the seller will be the replacement or repair of the defective goods; or, at seller's option, credit may be issued not exceeding the selling price of the defective good. Lifetime means for so long as the job installation remains unchanged by the original owner.

The recommendations for applications and installation contained within this document are based on our extensive experience and current technological practice. Ecore's liability and responsibility in the event of damages is limited to the extent defined in our General Terms and Conditions of Business and is not in any way increased by advice given by our sales representatives or applications engineering staff. Ecore is a corporation duly organized and validly existing under the laws of the Commonwealth of Pennsylvania.



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