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

General

Installation

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GENERAL INFORMATION

The QT line of products for impact sound insulation is 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 approved for installation over QT. All floor covering assemblies shall have prior installation approval.

I JOB SITE CONDITIONS

Areas to receive QT should be weather tight and maintained at a minimum, 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 subfloor requirements and preparation recommendations as specified by the flooring manufacturer.

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. Radiant Heat – QTscu is only suitable over radiant heat when fully adhered and must not come into direct contact with the radiant heat source.
6. 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.
7. 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 LF or as recommended by the flooring manufacturer.
8. Mechanically remove all traces of old adhesives, paint, or other debris by scraping, sanding, or scarifying the substrate. DO NOT use solvents.
9. Grind high spots until level and fill low spots with a patching /leveling compound.
10. 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.
11. 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.
12. 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-TAK 99 – RH limit of **90%** (wet) and **99%** (pressure sensitive)

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

Note: The selected Portland-based patching and self-leveling materials must be moisture resistant and rated to withstand the RH moisture levels on the project.

13. 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.
14. Perform pH tests on all concrete floors. If greater than the allowable limit of the selected Ecore adhesive, neutralize prior to installation.
15. 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 inside and appropriately to prevent damage.
   2. Inspect all material for visual defects before beginning the installation.
   3. Verify the material delivered is the correct type, thickness, and amount. Report any discrepancies immediately.
      Ecore will honor no labor claim on material installed with any visually apparent defects.
   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 rolled at the factory. Installer should allow all cuts to relax before gluing down. Shaking material once unrolled can help it to relax more quickly.

V INSTALLATION OF PERIMETER ISOLATION STRIP

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

1. Temporarily attach the Perimeter Isolation Strip to the perimeter wall of the entire subfloor, as well as around the perimeter of any protrusions, with tape, spray adhesive, etc.

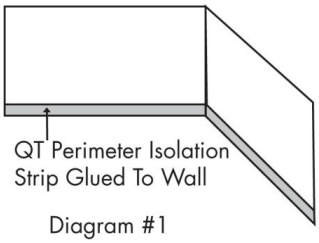


Diagram #1

2. 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.

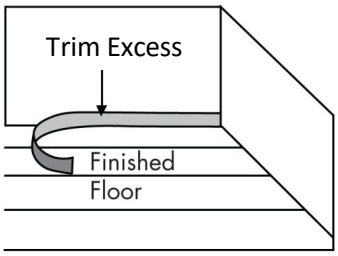


Diagram #2

VI INSTALLATION – QTrbm

QTrbm (resilient base mat) is a dimpled, resilient base mat for installation under gypsum or full weight concrete. 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 as necessary to fit surface area to be covered.
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).

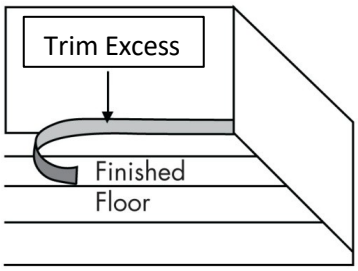


Diagram #2

VII INSTALLATION - QTscu ROLLS AND SHEETS

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.

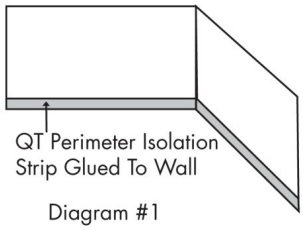


Diagram #1

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. Remove the shrink-wrap from rolls and unroll onto floor. De-stack QT Sheets into their approximate position on the floor. Allow to relax for 2 hours. Shaking the material once it is unrolled can help it to relax. It is OK to flip the QTscu in case of curling. It may be necessary to weight material to keep it flat when adhering.

4. Place the QTscu material so the major dimension is perpendicular to the subsequent installation direction of the finished flooring (see diagram #3).

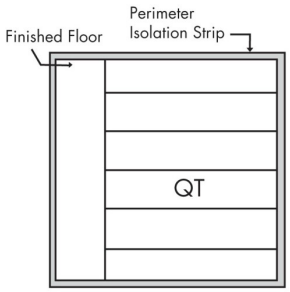


Diagram #3

5. Trim as necessary to fit surface area to be covered.
6. Align the side and head edges with each other. 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 QT is placed and allowed to relax, fold material halfway back (half the width of the roll or sheet) to expose substrate. Spread adhesive on exposed substrate using proper trowel:

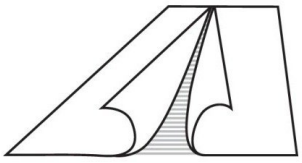
   a. E-Grip III, E-Grip 95, E-Grip 99 and E-TAK 99
      i. Less than 4mm QTscu – Use a 1/16" x 1/32" x 1/32" U notched trowel.
      ii. 4mm and thicker – Use a 1/16" square notched trowel.

PLEASE NOTE:

- **Ecore recommends using E-Grip III, E-Grip 95, or E-Grip 99 when installing grouted materials.**
- **<u>Only use E-TAK 99 for QT thicknesses of UP TO 5mm, no thicker</u> and on concrete or gypsum, the gypsum with primer.**
- **E-Grip III, E-Grip 95, E-Grip 99 can be used for ANY thickness QT, and on concrete only.**

NOTE: Temperature and humidity affect adhesive open time; 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, as this will trap air under the material.
3. Fold over second half of first roll or sheet and first half of second roll or sheet.



4. Spread the adhesive. At seams, spread adhesive at 90 degrees to prevent excessive adhesive from oozing up to the surface of the material. Never leave adhesive ridges or puddles, which can telegraph up through the material.
5. Continue the process for each consecutive drop, always folding material back into wet adhesive.
6. Use a 75 lb. roller, within 45 minutes, to roll the floor to ensure proper transfer of adhesive. Overlap each pass of the roller by 50% of the previous pass. It may be necessary to weight material to keep it flat when adhering.
7. Repeat procedure for all sections of material until the room is finished.

VIII ALTERNATIVE INSTALLATION METHODS for QTscu

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 or sheets onto the subfloor with duct or carpet tape to hold seams together.

C. PLYWOOD OR CEMENT BOARD

1. The plywood or cement board should be glued down using an approved 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.**

D. SHEET VINYL OR LUXURY VINYL TILE AND PLANK

1. **Sheet vinyl is *not* an approved installation method over the QTscu. Please contact Ecore for factory laminated sheet vinyl products.**
2. For LVT installation, refer to the LVT manufacturer's instructions.

E. CERAMIC AND PORCELAIN TILE

1. Apply approved thinset mortar directly onto QTscu as directed by mortar manufacturer.
2. Follow mortar and tile manufacturers' installation procedures.

F. GLUE DOWN WOOD FLOORING

1. Follow the flooring manufacturer's directions for installing the flooring over QTscu. 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 QT.**

G. **NAILED DOWN WOOD FLOORING**

1. Follow the flooring manufacturer's directions to install flooring over the QTscu. 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.**

H. **USING BOTH QTrbm (dimpled) AND QTscu IN THE SAME ASSEMBLY**

1. The QTrbm (dimpled) is normally installed first; install "dimples down" per instructions above.
2. Pour gypsum / concrete per manufacturer's recommendations; when cured to manufacturer's specs, install the QTscu over the gypsum / concrete per QTscu instructions above.

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 between baseboard and floor surface with an ASTM C920 elastomeric joint sealant.

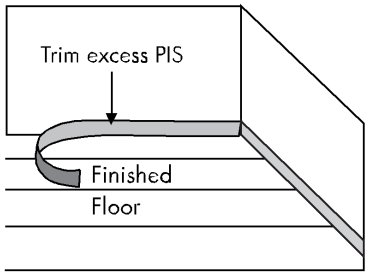


Diagram #5

X RECOMMENDED MATERIALS

NOTE: All materials shall be delivered to the job site in the original containers with all manufacturers' identification and labels intact. Unauthorized modification to any product is not permitted.

A. APPROVED URETHANE ADHESIVES

Please note: The following urethane adhesives are ONLY suitable for wood subfloors, concrete and Portland- based patches and self-levelers. They are not suitable for gypsum.

1. E-Grip III
2. E-Grip 95
3. E-Grip 99

B. APPROVED ACRYLIC ADHESIVE

Please note: The following acrylic adhesives are suitable for wood subfloors, concrete, Portland-based patches and self-levelers, and gypsum.

1. E-TAK 99 by Ecore
   a. Ecore's E-TAK 99 is approved for use over concrete **and gypsum substrates**.
   b. Gypsum substrates **must first be primed** with one of the recommended primers listed below **prior to application** of the E-TAK 99 adhesive.
   c. Ecore's E-TAK 99 is also approved for QT thickness **up to 5mm, no thicker**. A **urethane from the above list** can be used for ANY thickness QT.

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 BACKERBOARD

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 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, any job installation that does not remain unchanged as installed by the original owner, 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 goods. Warranty only applies to the original owner.

Please see the Ecore Warranty Guide for length specifics.

These warranties are in lieu of any other warranty expressed or implied. Ecore shall not be liable for any incidental or consequential damages which may result from a defect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. These warranties give you specific rights, and you may also have rights which may vary from state to state. To know what your legal rights are in your state, consult your local or state Consumer Affairs Office or your State Attorney General. For complete and latest warranty information, please visit www.qtsoundcontrol.com

QT SOUND INSULATION

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Manufactured in the U.S.A. by:

ECORE