
Product Guide Specification
Pliteq GenieMat[®] RST02, GenieMat[®] RST05, GenieMat[®] RST10,
GenieMat[®] RST12, GenieMat[®] RST15

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including MasterFormat, SectionFormat, and PageFormat, contained in the CSI Manual of Practice.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building regulations. Coordinate this section with other specification sections and the drawings.

Delete all “Specifier Notes” when editing this section.

SECTION 09 60 13
ACOUSTIC UNDERLAYMENT

Specifier Notes: This section covers Pliteq, Inc. “GenieMat[®] RST” installed with “GenieMat[®] FAS, GenieMat[®] FAS2 or GenieMat[®] FASHM” adhesive underneath finish flooring to reduce airborne and impact sound transmission. Consult Pliteq Inc. for assistance in editing this section for the specific application.

Part 1.0 – General

1.1: Summary

1.1.1: The work of this section includes:

1.1.1.1: Types of re-bonded recycled rubber sound control underlayment to be placed under flooring in living units

1.1.1.2: Adhesive

1.1.2: Related Sections: (Section(s) related to this article include:

1.1.2.1: Concrete Substrate

1.1.2.2: Plywood Substrate

1.1.2.3: Tile

1.1.2.4: Carpeting

1.1.2.5: Vinyl

1.1.2.6: Noise Control and Vibration Isolation

1.2: References

1.2.1: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. The standards listed are identified by an issuing authority, authority abbreviation, designation number, title, or other designation established by the issuing authority. The standards subsequently referenced herein are referred to by an issuing authority and standard designation.

1.2.2: American Society for Testing and Materials (ASTM):

1.2.2.1: ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine

1.2.2.2: ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester

1.2.2.3: ASTM E989 Standard Classification for Determination of Impact Insulation Class (IIC)

1.2.2.4: ASTM E1007 Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures

1.2.2.5: ASTM E2179 Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors

1.2.2.6: ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

1.2.2.7: ASTM E336 Standard Test Method for Measurement of Airborne Sound Insulation in Buildings

1.2.2.8: ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in-situ Probes

1.2.2.9: ASTM D5116 CHPS/CA 01350 – Collaborative of High Performance Schools, Low-Emitting Materials Criteria

1.2.2.10: ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

1.2.2.11: ASTM F924 Standard Test Method for Resistance to Puncture of Cushioned Resilient Floor Coverings

1.2.2.12: ASTM F1265 Standard Test Method for Resistance to Impact for Resilient Floor Tiles

- 1.2.2.13: ASTM F2753 Standard Practice to Evaluate the Effects of Dynamic Rolling Load over Resilient Floor Covering System
- 1.2.2.14: ASTM D5215 Standard Test Method for Instrumental Evaluation of Staining of Vinyl Flooring by Adhesives
- 1.2.2.15: ASTM D297 Standard Test Method for Rubber Products - Chemical Analysis
- 1.2.2.16: ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson Wheel-Type Floor Tester
- 1.2.2.17: ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs using in situ Probes
- 1.2.3: South Coast Air Quality Management District (SCAQMD) Rule # 1168
 - 1.2.3.1: VOC standards for adhesive and sealant applications
- 1.2.4: Leadership in Energy and Environmental Design – LEED[®]
 - 1.2.4.1: International Organisation for Standardisation[®] document, ISO 14021 – Provides guidance on the terminology, symbols, testing, and verification methodologies that an organisation should use for self-declaration of the environmental aspects of its products and services.

1.3: System Description

- 1.3.1: Performance Requirements: Provide recycled rubber resilient flooring, which has been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage, or failure.

1.4: Submittals

- 1.4.1: General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- 1.4.2: LEED: Provide documentation of how the requirements for credit will be met.
 - 1.4.2.1: List of proposed materials with recycled content. Indicate pre-consumer and post-consumer content.
 - 1.4.2.2: Product data and certification letter indicating percentage of recycled content for both pre-consumer and post-consumer content.
 - 1.4.2.3: Recycled content is defined in accordance with the International Organisation for Standardisation document, ISO 14021 Environmental labels and declarations.

1.4.2.3.1: Post-consumer material - waste materials diverted from the waste stream after consumer or commercial use.

1.4.2.3.2: Pre-consumer material- materials diverted from the waste stream during the manufacturing process. Excluded are regrind, rework, and scrap.

1.4.3: Product Data: Submit product data, including manufacturer's guide specifications product sheet, for specified products.

1.4.4: Shop Drawings: Manufacturer's specifications, catalog cuts, and other items needed to demonstrate compliance with the specified requirements. Also the manufacturer's recommended installation procedures, which, when approved by the architect, will become the basis for accepting or rejecting actual installation procedures used on work.

1.4.5: Samples: Submit selection and verification samples for finishes, colors, and textures.

1.4.6: Quality Assurance Submittals: Submit the following:

1.4.6.1: Certificates: If required, certification of performance characteristics specified in this document shall be provided by the manufacturer.

1.4.6.2: Manufacturer's Instructions: Manufacturer's installation instructions.

1.4.6.3: Sound Control Underlayment material manufacturer shall provide a Certificate of Compliance certifying that the material is compliant with all of the material specifications as outlined in Section 2, and the Certificate of Compliance shall be stamped by a Professional Engineer.

1.4.7: Closeout Submittals: Submit the following:

1.4.7.1: Warranty: Warranty documents specified herein.

1.5: Quality Assurance

1.5.1: Qualifications

1.5.1.1: Installer Qualifications: Installer experienced in performing work of this section who has specialised in installation of work similar to that required for this project.

1.5.1.1.1: Certificate: When requested, submit certificate indicating qualification.

1.5.1.1.2: Manufacturers' Qualifications: Manufacturer capable of approving application method.

1.5.2: Regulatory Requirements: [specify applicable requirements of regulatory agencies].

1.5.3: Mock-Ups: Install at project site a job mock-up using acceptable products and manufacturer-approved installation methods. Comply with workmanship standard. Comply with Division 1 Quality Control (Mock-Up Requirements) Section.

1.5.3.1: Mock-Up Size: As determined by acoustic consultant.

1.5.3.2: Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.

1.5.3.3: Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.

1.5.4: Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's instructions, and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

1.5.5: Pre-installation Testing: Conduct pre-installation testing as follows: [specify substrate testing; consult with flooring manufacturer].

1.6: Delivery, Storage, and Handling

1.6.1: General: Comply with Division 1 Product Requirements Sections.

1.6.2: Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

1.6.3: Delivery: Deliver materials in manufacturer's original, unopened, and undamaged containers with identification labels intact.

1.6.4: Storage and Protection: Store materials at temperature and humidity conditions recommended by manufacturer and protect from exposure to harmful weather conditions.

1.7: Project Conditions

1.7.1: Temperature Requirements: Maintain air temperature in spaces where products will be installed for time period before, during, and after installation as recommended by manufacturer.

1.7.2: Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.8: Warranty

1.8.1: Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

- 1.8.1.1: The recommendations for applications and installation are based on our extensive experience and on current technological practice. Our 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 the above recommendations or by advice given by our sales representatives or applications engineering staff.
- 1.8.1.2: **Pliteq** Inc. is a corporation duly organized and validly existing under the laws of the province of Ontario. **Pliteq** offers a limited lifetime warranty on the **GenieMat** brand of Sound Control Underlayment products against defects in material and workmanship and that **GenieMat** shall meet all published specifications and shall perform effectively. **Pliteq** warrants that during the warranty period **GenieMat** 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 purpose 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.
- 1.8.1.3: To qualify for replacement or repair, a claim is required to be made directly to **Pliteq**. All claims are required to be made by telephone at 416-449-0049 or a written claim can be sent to the following address:

Pliteq Inc.
131 Royal Group Crescent
Vaughan, ON
L4H 1X9
Canada

- 1.8.1.4: **Pliteq** must be notified within 14 days of the discovery of a defect and prior to installation. Any claims initiated outside of this limitation period are deemed invalid. A **Pliteq** claim form including customer requirements must be completed and submitted to **Pliteq** within 30 days of notification of defect. Once a claim process is initiated, a material inspection may be performed at **Pliteq's** discretion to ensure the situation is resolved in a comprehensively fair manner.

1.9: Maintenance

- 1.9.1: Extra Materials: Deliver to Owner extra materials from the same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section.
 - 1.9.1.1: 1.9.1.1: Quantity: Furnish quantity of re-bonded recycled rubber Sound Control Underlayment units as requested on purchase order.
 - 1.9.1.2: 1.9.1.2: Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage, and protection of extra materials.

Part 2.0 – Proprietary Manufacturer/Products

2.1: Manufacturer: Pliteq Inc.

2.1.1: Address: 1370 Don Mills Road, Toronto, ON M3B 3N7; Telephone: (416) 44980049; Fax: (416) 84980415; Email: llim@pliteq.com

2.2: Proprietary Product(s)

2.2.1: Pliteq GenieMat[®] Re-bonded Recycled Rubber Sound Control Underlayment and Adhesives manufactured by Pliteq Inc.

2.2.1.1: Pliteq **GenieMat[®] RST02, GenieMat[®] RST05, GenieMat[®] RST10, GenieMat[®] RST12, GenieMat[®] RST15** Re-bonded Recycled Rubber Sound Control Underlayment

2.2.1.2: Pliteq GenieMat[®] Re-bonded Recycled Rubber Perimeter Isolation Strip

2.2.1.3: Pliteq GenieMat[®] Polyethylene Foam Perimeter Isolation Strip

2.3: Pliteq **GenieMat[®] RST02, GenieMat[®] RST05, GenieMat[®] RST10, GenieMat[®] RST12, GenieMat[®] RST15** Re-Bonded Recycled Rubber Sound Control Underlayment

2.3.1: Product Name: The non-laminated, single-ply re-bonded rubber underlayment furnished under this specification shall be Pliteq GenieMat[®] Recycled Rubber Sound Control Underlayment.

2.3.2: Material: Made from 94% recycled rubber content. GenieMat[®] is a flat, resilient underlayment that is used directly under a variety of floor finishes in wood, steel, and concrete construction, yielding exceptional results for impact sound insulation and protecting ceramic, porcelain, and stone from substrate cracks.

2.3.3: Sheet Dimension: GenieMat[®] rolled rubber underlayment will have an overall thickness of _____ (specify: 5/64" [2 mm] standard in 4' by 75' [1.2 m by 22.9 m] roll size for **GenieMat[®] RST02**, or 3/16" [5 mm] standard in 4' by 30' [1.2 m by 9.1 m] roll size for **GenieMat[®] RST05**, or 3/8" [10 mm] standard in 4' by 15' [1.2 m by 4.6 m] roll size for **GenieMat[®] RST10**, or 1/2" [12 mm] standard in 4' by 15' [1.2 m by 4.6 m] roll size for **GenieMat[®] RST12**, or 5/8" [15 mm] standard in 4' by 15' [1.2 m by 4.6 m] roll size for **GenieMat[®] RST15**).

2.3.4: Sheet Standard Tolerances: Tolerances are pursuant to ISO 3302-1.

2.3.5: Reduction of Impact Sound Pressure Level (ΔL_W) (BN ES ISO 14088): 14 dB (**GenieMat[®] RST02**), 19 dB (**GenieMat[®] RST05**), 21 dB (**GenieMat[®] RST10**), 22 dB (**GenieMat[®] RST12**).

2.3.6: Impact Insulation Class Laboratory (ASTM E492): Specified floor-ceiling assembly must be tested in a NVLAP certified laboratory and comply with ASTM standards. 5mm thickness shall be tested over 8" (203.2mm) concrete slab with tile, resilient clip supported ceiling to an IIC rating of 55 or greater. 2mm shall be tested over an open-web truss assembly with tile, resilient clip supported ceiling to an IIC rating of 55 or greater.

2.3.7: Sound Control Underlayment material shall have an Impact Insulation Class (IIC) Laboratory result as tested per ASTM E492 with the following floor-ceiling configurations:
-5mm thickness shall be tested over 8" (203.2mm) concrete slab with ceramic or stone tile, resilient clip supported ceiling to an IIC rating of 55 or greater
-2mm thickness shall be tested over an open-web truss assembly with tile, resilient clip supported ceiling to an IIC rating of 55 or greater

The floor-ceiling assembly must be tested in a certified laboratory and comply with ASTM or ISO standards.

2.3.8: Sound Control Underlayment material shall have a measured density per ASTM D1622 of a minimum of 63 lbs/cubic foot (1010 kg/m³) for **GenieMat[®] RST02**, 63 lbs/cubic foot (1010 kg/m³) for **GenieMat[®] RST05**, 63 lbs/cubic foot (1010 kg/m³) for **GenieMat[®] RST10**, 63 lbs/cubic foot (1010 kg/m³) for **GenieMat[®] RST12**, 63 lbs/cubic foot (1010 kg/m³) for **GenieMat[®] RST15**

2.3.9: Sound Control Underlayment material shall have a structural performance rating when used to support ceramic or stone tile on a 2" (50mm) concrete base per ASTM C627 of:
-2mm Thickness 8 Extra Heavy Commercial Rating
-5mm Thickness 8 Moderate Commercial Rating
-10mm Thickness 8 Light Commercial Rating
-12mm Thickness 8 Light Commercial Rating
-15mm Thickness 8 Heavy Commercial Rating

And shall have a structural performance rating when used to support ceramic or stone tile on a wood-frame subfloor base per ASTM C627 of:

-5mm Thickness - Light Commercial Rating

2.3.10: Sound Control Underlayment shall have an approved system with maximum MVER per ASTM F2170 of 90%

2.3.11: Sound Control Underlayment material shall have a measured acceleration responding to standardised ASTM E989 impact source of:

< 0.0009G @ 63 Hz

< 0.0016G @ 80 Hz

< 0.0015G @ 100 Hz

(when measured for 15mm thickness)

- 2.3.12: Sound Control Underlayment material shall have an Impact Insulation Class (IIC) Laboratory result as tested per ASTM E492 and/or ASTM E2179 with the following floor-ceiling configurations:
- 5 mm thickness shall be tested over 6" (150mm) concrete slab with vinyl plank floor covering, no ceiling, IIC 50, ΔIIC21
 - 5 mm thickness shall be tested over 6" (150mm) concrete slab with 3/8" (9.5mm) laminate wood floor covering, no ceiling, IIC 51 and ΔIIC 21
 - 5 mm thickness shall be tested over 6" (150mm) concrete slab with 12"x 12" (305mm x 305mm) ceramic tile, no ceiling IIC50 and ΔIIC21
- The floor-ceiling assembly must be tested in a certified laboratory and comply with ASTM or ISO standards.
- 2.3.13: Impact Insulation Class Field (ASTM E1007): Floor-ceiling assembly must meet requirement as stated by building regulations and/or acoustic consultant.
- 2.3.14: Reduced Impact Sound Transmission (ASTM E2179): Specified floor-ceiling assembly must be tested in an accredited laboratory and comply with ASTM standards.
- 2.3.15: Sound control underlayment shall meet the requirements for the Standard Method for the Testing and Evaluation of VOC Emissions from Indoor Sources using Environmental Chambers, version 1.1 of February 2010 set out by the California Department of Public Health when tested using the ASTM D5116 test methodology.
- 2.3.16: When Sound Control Underlayment is specified under vinyl tile flooring, the average puncture failure height of the assembly of the vinyl tile and the underlayment shall be no less than when the vinyl is tested on its own using ASTM F924 test methodology.
- 2.3.17: When Sound Control Underlayment is specified under vinyl tile flooring, the assembly of the vinyl tile and underlayment shall show no breaking or cracking when tested to ASTM F1265.
- 2.3.18: When Sound Control Underlayment is specified under vinyl tile flooring, shall no signs of indentation or plank/tile separation up to 12,500 cycles using ASTM F2753 test methodology.
- 2.3.19: Shall meet requirements for point load crack isolation when tested in accordance with ANSI 118.12 and achieve a minimum load of 1319 lbs (144.7kg) before tile fracture.
- 2.3.20: Sound control underlayment shall be FloorScore[™] certified.

2.4: Pliteq **GenieMat[®] PMI05 Type R, GenieMat[®] PMI10 Type R** Re-bonded Recycled Rubber Perimeter Isolation Strip

- 2.4.1: Product Name: The non-laminated, single-ply re-bonded rubber perimeter isolation strip under this specification shall be Pliteq GenieMat[™] Re-bonded Recycled Rubber Perimeter Isolation Strip.

For Your Project Specific Questions
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2.4.2: Material: Made from 94% recycled rubber content, Pliteq Perimeter Isolation Strip is a flat, resilient strip that is used to build a tub around the floor so that no hard surface (floor covering) touches any hard vertical surface protrusion or wall.

2.4.3: Sheet Dimension: GenieMat[®] rolled perimeter isolation strip will have an overall thickness of 1/4" [5 mm] in 3" by 30' [76 mm by 9.1 m] roll size or 3/8" [10 mm] in 3" by 15' [76 mm by 4.6 m] roll size.

2.4.4: Sheet Weight: 1.0 lb/ft² [4.88 kg/m²] or 2.08 lb/ft² [10.17 kg/m²].

2.5: Pliteq **GenieMat[®] PMI06 Type PF, GenieMat[®] PMI12 Type PF** Polyethylene Foam Perimeter Isolation Strip

2.5.1: Product Name: The single-ply white polyethylene foam perimeter isolation strip under this specification shall be Pliteq Polyethylene Foam Perimeter Isolation Strip.

2.5.2: Material: Made from white polyethylene foam, GenieMat[®] Perimeter Isolation Strip is a flat, resilient strip that is used to build a tub around the floor so that no hard surface (floor covering) touches any hard vertical surface (protrusion or wall).

2.5.3: Sheet Dimension: Pliteq rolled perimeter isolation strip will have an overall thickness of 1/4" [6 mm] in 3" by 15' [76 mm by 4.6 m] roll size or 1/2" [12 mm] in 6" by 15' [152 mm by 4.6 m] roll size.

2.5.4: Sheet Weight: 0.035 lb/ft² [0.171 kg/m²] or 0.07 lb/ft² [0.34 kg/m²].

2.6: 2.6: Product Substitutions

2.6.1: Substitutions: No substitutions permitted

2.7: Related Materials

2.7.1: Related Materials: Refer to other sections listed in Related Sections paragraph herein for related materials

2.8: Source Quality

2.8.1: Source Quality: Obtain re-bonded recycled rubber impact sound insulation materials from a single manufacturer

Part 3.0 – Execution

3.1: Manufacturers' Instructions

3.1.1: Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.

3.2: Examination

3.2.1: Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.3: Preparation

3.3.1: Surface Preparation: Surfaces shall be prepared in accordance with ANSI standards.

3.4: Erection/Installation/Application/Construction

3.4.1: Re-bonded Recycled Rubber Sound Control Underlayment: Comply with the Pliteq GenieMat[®] Technical Installation Manual for procedures and techniques for re-bonded recycled rubber Sound Control Underlayment installation.

3.4.2: Related Products Installation: Refer to other sections listed in Related Sections paragraph herein for related products installation.

3.4.3: Installation should not begin until all other trades are finished in the area.

3.4.4: Areas to receive the re-bonded recycled rubber Sound Control Underlayment should be weather tight and maintained at a minimum uniform temperature of 65°F (18°C) for 48 hours before, during, and after the installation.

3.5: Field Quality Requirements:

3.5.1: Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations in accordance with manufacturer's instructions.

3.5.2: Field Tests should be performed by an independent acoustic laboratory accredited by the U.S. Department of Commerce, National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program for the specified test procedure.

3.5.3: The cost for all field acoustic testing, corrective work associated with the installation of the re-bonded recycled rubber Sound Control Underlayment and flooring to meet the minimum requirements, shall be borne by the flooring contractor(s).

3.6: 3.6: Cleaning

3.6.1: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

For Your Project Specific Questions

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3.7: Protection

3.7.1: Protection: Protect installed product and finish surfaces from damage during construction

3.8: Schedules

3.8.1: Schedules: [Specify reference to applicable schedules].

End of Section