

This MANU-SPEC[®] utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat*[™], *SectionFormat*[™] and *PageFormat*[™]. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies sound damping system components, including gypsum wall and ceiling panels; plywood floor, wall and ceiling panels; vibration absorption coating; vibration absorption adhesive; and acoustical sealant. These products are manufactured by Serious Materials, Inc. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

SECTION 09 21 16 GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1. SUMMARY

Specifier Note: Revise paragraphs below to suit project requirements.

Section Includes: composite gypsum wall and ceiling panels.

Specifier Note: Revise paragraph below to suit project requirements. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section number(s) should be listed in the paragraph below. Add section numbers and titles per CSI *MasterFormat* and specifier's practice. In the absence of related sections, delete paragraph below.

Related Sections:

Division 1 LEEDDivision 5 Section: Cold-Formed Metal Framing.Division 7 Section: Acoustical Joint Sealants.Division 9 Section: Gypsum Board.Division 13 Section: Sound, Vibration and Seismic Control.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

2. REFERENCES

ASTM International:

ASTM C639 Standard Test Method for Rheological (Flow) Properties of Elastomeric Sealants.

ASTM C681 Standard Test Method for Volatility of Oil- and Resin-Based, Knife-Grade, Channel Glazing Compounds.

ASTM D750 Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus.

ASTM D925 Standard Test Methods for Rubber Property-Staining of Surfaces (Contact, Migration, and Diffusion).

ASTM D2202 Standard Test Method for Slump of Sealants.





ASTM E 2126-02a Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Walls for Buildings.

ASTM E695-03 Standard Test Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading

ASTM C 840 - Standard Specification for Application and Finishing of Gypsum Board

ASTM C 1396/C 1396M - Standard Specification for Gypsum Board

ASTM C 475/C 475M - Standard Specification for Joint Compound and Joint Tape for Finishing

GA-216 - Application and Finishing of Gypsum Board; Gypsum Association

GA-600 - Fire Resistance Design Manual; Gypsum Association

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

3. SUBMITTALS

General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

Product Data: Submit product data, including manufacturer's SPEC-DATA® sheet, for specified products.

Quality Assurance/Control Submittals:

Test Reports: Upon request, provide test reports from recognized testing laboratories.

Certificates: Submit manufacturer's certificate that products meet or exceed specified requirements.

LEED Submittal Requirements:

- A. Product Data as required to show compliance with the following credits.
 - 1. LEED MR Credit 4.1 and 4.2 Submit product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
 - 2. LEED MR Credit 5.1 and 5.2 Submit product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material

Closeout Submittals: Submit the following:

Warranty documents specified herein.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 1 Quality Assurance Section.

4. QUALITY ASSURANCE

Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

Regulatory Requirements and Approvals: [Specify applicable requirements of regulatory agencies.].

[Code agency name].

[Report or approval number].

Certifications: [Specify requirement for certifications.].

Specifier Note: Retain paragraph below if preinstallation meeting is required.

Preinstallation Meetings: [Specify requirements for meeting.].

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 1 Product Requirements Section.

5. DELIVERY, STORAGE & HANDLING

General: Comply with Division 1 Product Requirements Section.

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

Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Store all products in a dry location until use.

Store QuietRock flat until use.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section. Use this article to require special or extended warranty or bond covering the work of this section.





6. WARRANTY

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

Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

Specifier Note: Coordinate subparagraph below with manufacturer's warranty requirements.

Warranty Period: [Specify number of years.] beginning with Date of Substantial Completion.

PART 2 - PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

1. SYSTEM DESCRIPTION

Design Requirements: Provide products/systems that have been manufactured, fabricated and installed to meet the following criteria:

[Specify design requirements.].

Performance Requirements: Provide products/systems that have been manufactured, fabricated and installed to meet the following criteria:

[Specify performance requirements.].

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

2. SOUND DAMPING SYSTEM

Specifier Note: Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

Manufacturer: Serious Materials Inc.

Contact: 1250 Elko Drive, Sunnyvale, CA 94089; Telephone: (800) 797-8159, (408) 541-8000; Fax: (408) 715-2560; E-mail: info@seriousmaterials.com; Web site: www.guietrock.com; www.seriousmaterials.com

Specifier Note: Edit Paragraph below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

3. PRODUCT SUBSTITUTIONS

Substitutions: No substitutions permitted.

Acceptable equivalent to be designated by architect's approval as described in Division 01.

Specifier Note: Paragraphs below list proprietary sound and vibration control products offered by Serious Materials, Inc. Select products appropriate to project. Consult manufacturer regarding product options. Select product characteristics required; delete characteristics not required. Refer to manufacturer's SPEC-DATA® product sheet.

- 4. QuietRock 510
 - A. Basis of Design: Quiet Rock 510, manufactured by Serious Materials
 - B. Panel Physical Characteristics.
 - 1. Thickness: 13 mm ($\frac{1}{2}$ inch).





- 2. Weight: 11 kgs/sqm. (2.25 lbs/sqft.)
- 3. Materials: Paper faced gypsum, sound-absorbing viscoelastic polymer core.
- 4. STC Rating: 49-69 (ASTM E90)
- 5. UL-rated Assemblies: U301, U305, U309, U311, U320, U331, U334, U340, U341, U342, U347, U440, U451, U453, U455, U465, U473, U493 and V469
- 6. Size: [121.9 cm x 243.8 cm] [121.9 cm x 274.3 cm] [121.9 cm x 304.8 cm] [121.9 cm x 365.8 cm] [4 feet × 8 feet] [4 feet x 9 feet] [4 feet × 10 feet] [4 feet × 12 feet]

Specifier Note: QuietRock 510 is normally stocked in 121.9 cm x 243.8 cm ($4' \times 8'$) and 121.9 cm x 274.3 cm ($4' \times 9'$) sizes. 121.9 cm x 304.8 cm ($4' \times 10'$) and 121.9 cm x 365.8 cm ($4' \times 12'$) sizes are available by special order only.

5. QuietRock 516

- A. Basis of Design: Quiet Rock 516, manufactured by Serious Materials
- B. Panel Physical Characteristics.
 - 1. Thickness: 13 mm ($\frac{1}{2}$ inch).
 - 2. Weight: 11 kgs/sqm. (2.25 lbs/sqft.)
 - 3. Materials: Paper faced gypsum, sound-absorbing viscoelastic polymer core.
 - 4. STC Rating: 46-49 as a single layer on one or both sides of single wood studs 406 mm (16") OC.
 - 5. Size: 121.9 cm x 243.8 cm (4 feet × 8 feet)

6. QuietRock ES

- A. Basis of Design: Quiet Rock ES, manufactured by Serious Materials
- B. Panel Physical Characteristics.
 - 6. Thickness: 16 mm (5/8") inch.
 - 7. Weight: 12.7 kgs/sqm (2.6 lbs/sqft.)
 - 8. Materials: Paper faced gypsum, sound-absorbing viscoelastic polymer core.
 - 9. STC Rating: 48-55 (ASTM E90)
 - 10. Fire Rated: Type X Gypsum Board
 - 11. UL-rated Assemblies: U301, U302, U305, U309, U326, U329, U330, U332, U337, U338, U339, U341, U342, U354, U355, U357, U358, U360, U411, U418, U420, U425, U434, U442, U450, U460, U465, U467, U473, U475, U487, U494, V417, V419, W322
 - 12. Size: [121.9 cm x 243.8 cm] [121.9 cm x 274.3 cm] [121.9 cm x 304.8 cm] [4 feet × 8 feet] [4 feet x 9 feet] [4 feet × 10 feet]

Specifier Note: QuietRock ES is normally stocked in 121.9 cm x 243.8 cm ($4' \times 8'$) size. 121.9 cm x 274.3 cm ($4' \times 9'$) and 121.9 cm x 304.8 cm ($4' \times 10'$) sizes are available by special order only.

- 7. QuietRock 525:
 - A. Basis of Design: Quiet Rock 525, manufactured by Serious Materials
 - B. Panel Physical Characteristics
 - 1. Thickness: 16 mm (5/8 inch).
 - 2. Weight: 15.1 kgs/sqm (3.1 lbs/sqft.)
 - 3. Materials: Paper faced gypsum, sound-absorbing viscoelastic polymer core, calcium silicate wallboard.
 - 4. STC Rating: 49-70 (ASTM E90)
 - 5. Fire-rated: 1 hour (ASTM E119)
 - 6. Surface flame: Class A (ASTM E84)
 - 7. UL-rated Assemblies: L591, U347 and U386.
 - Size: [121.9 cm x 243.8 cm] [121.9 cm x 274.3 cm] [121.9 cm x 304.8 cm] [121.9 cm x 365.8 cm] [Blueboard - 121.9 cm x 243.8 cm]
 [4 feet × 8 feet] [4 feet × 9 feet] [4 feet × 10 feet] [4 feet × 12 feet] [Blueboard - 4 feet × 8 feet].

Specifier Note: QuietRock 525 is normally stocked in 121.9 cm x 243.8 cm (4' × 8') and 121.9 cm x 304.8 cm (4' × 10') sizes.





- 8. QuietRock 527:
 - A. Basis of Design: Quiet Rock 527, manufactured by Serious Materials
 - B. Panel Physical Characteristics
 - 1. Thickness: 16 mm (5/8 inch), tapered edges
 - 2. Weight: 14.6 kgs/sqm (3.0 lbs/sqft.)
 - 3. Materials: Paper faced gypsum, sound-absorbing viscoelastic polymer core, magnesium oxide wallboard, cement.
 - 4. STC Rating: 55-65 (ASTM E90)
 - 5. Fire-rated: 1 hour (ASTM E119)
 - 6. Surface flame: Class A (ASTM E84)
 - 7. UL-rated assemblies: V463, V464, V491, and V492.
 - 8. Size: [121.9 cm x 243.8 cm] [121.9 cm x 274.3 cm] [121.9 cm x 304.8 cm] [121.9 cm x 365.8 cm] [4 feet × 8 feet] [4 feet × 9 feet] [4 feet × 10 feet] [4 feet × 12 feet].

Specifier Note: QuietRock 527 is normally stocked in 121.9 cm x 243.8 cm ($4' \times 8'$) and 121.9 cm x 304.8 cm ($4' \times 10'$) sizes. 121.9 cm x 274.3 cm ($4' \times 9'$) and 121.9 cm x 365.8 cm ($4' \times 12'$) sizes are available by special order only.

- 9. QuietRock 530:
 - A. Basis of Design: Quiet Rock 530, manufactured by Serious Materials
 - B. Panel Physical Characteristics
 - 1. Thickness: [16 mm] [5/8 inch] [Greenboard: 22 mm (7/8 inch)]
 - 2. Weight: 16.1 kgs/sqm (3.3 lbs/sqft)
 - 3. Materials: Paper faced gypsum, sound-absorbing viscoelastic polymer core, steel, aluminum tape
 - 4. STC Rating: 52-74 (ASTM E90).
 - 5. Fire-rated: 1 hour, Type X equivalent (ASTM E119)
 - 6. Surface flame: Class A (ASTM E84)
 - 7. UL-rated assemblies: U305, U309, U340, U341, U376 and U386.
 - 8. Shear Rating: Average 724.7 kgs/m (487 lbs/ft.) (ASTM E2126).
 - 9. Size: [121.9 cm x 243.8 cm] [121.9 cm x 274.3 cm] [121.9 cm x 304.8 cm] [121.9 cm x 365.8 cm] [Greenboard - 4 121.9 cm x 243.8 cm]
 [4 feet × 8 feet] [4 feet × 9 feet] [4 feet × 10 feet] [4 feet × 12 feet] [Greenboard - 4 feet × 8 feet]

Specifier Note: QuietRock 530 is normally stocked in 121.9 cm x 243.8 cm $(4' \times 8')$ and 121.9 cm x 304.8 cm $(4' \times 10')$ sizes. 121.9 cm x 274.3 cm $(4' \times 9')$ and 121.9 cm x 365.8 cm $(4' \times 12')$ sizes are available by special order only.

- 10. QuietRock 545 THX:
 - A. Basis of Design: Quiet Rock 545, manufactured by Serious Materials
 - B. Panel Physical Characteristics
 - 1. Thickness: 35 mm (1-3/8) inch.
 - 2. Weight: 32.7 kgs/sqm (6.7 lbs/sqft)
 - Materials: Paper faced, laminated mineral board, sound-absorbing viscoelastic polymer core, steel, calcium citrate wallboard.
 - 4. STC Rating: 60-80 (ASTM E90).
 - 5. Size: 121.9 cm x 243.8 cm (4 feet x 8 feet)
- 11. ACCESSORIES

Acoustical Sealant: As specified in Division 07 Section "Joint Sealants."





A. QuietSeal:

- 1. Physical Characteristics:
 - a. Color: Yellow
 - b. Solid content: 91 wt %.
 - c. Weight: 1.7 kgs/L (14.1 lbs/gallon).
 - d. Volume shrinkage: < 18%.
 - e. Layer thickness: 2 mm (1/16").
 - f. Drying time: Remains soft.
 - g. Engageability: -23.3 C (-10 F).
 - h. Threshold: TLV 200 ppm.
 - i. Storage temp: 4.4 37.7 C (40 100 F).
 - j. Do not freeze
- B. QuietPutty:
 - 1. Physical Characteristics:
 - a. Color: Blue/Green
 - b. Thickness: 3 mm (1/8")
 - c. Weight: 170 grams (6 oz)/pad
 - d. Size: 179 x 179 mm (7 x 7 in)/pad
 - e. Density: 1.7 grams/cm3 (1oz/in3)
 - f. Unit size: 10 pads/box
 - g. STC-rated: 47–63 (ASTM E90)

PART 3 - EXECUTION

Specifier Note: Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

3.01 EXAMINATION

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

2. PREPARATION

Clean surfaces thoroughly prior to installation.

Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3. GENERAL INSTALLATION REQUIREMENTS

A. Install gypsum board in accordance with GA-201, GA-216, GA-600, and manufacturer's instructions.

B.Install in accordance with reference standards and manufacturer's instructions, product technical bulletins, product catalog and product carton instructions for installation [and as required to comply with seismic requirements].

C.Install framing to comply with ASTM C840 requirements that apply to framing installation.

- D.Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 6 mm to 13 mm (¼ to ½ inch) wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed Seal joints between edges and abutting structural surfaces with acoustical sealant. Add backer rods where necessary to complete continuous seal integrity.
- E.STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with additional manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

4. MANUFACTURER'S INSTRUCTIONS FOR WOOD FRAMING

A. Cut QuietRock 527, 530 and 545THX (choose one or more as job requires) to fit around any electrical boxes or openings in the wall, as needed, using a standard hand or power saw. QuietRock 527, 530 and 545THX (choose one or more as job requires)panels require a higher tooth-per-inch count on jigsaw blades (such as 16-25 tpi) as some layers contain light



gauge metal, or you may use a circular saw.

- B. Secure QuietRock to the studs using type 'S' or 'S12', drywall screws (every 406 mm (16") minimum). Use coarse thread for wood studs.
- C. Before putting up the next sheet, apply 3 mm 10 mm (1/8" 3/8") bead of QuietSeal® around panel perimeter (on the edges of the panel) and around electrical boxes. Then install the adjacent sheet of QuietRock, "squeezing" the QuietSeal in between them. Be sure to remove excess QuietSeal with a rag (any paint thinner easily removes QuietSeal) or putty knife as needed.
- D. Apply sealant to entire perimeters of all wall partitions ceiling and soffit installations. Seal entire perimeters. Seal all penetrations at enclosure elements. Provide backer rod where recommended by current industry best practice to insure optimum performance installations.
- E. Use QuietPutty®, or similar, behind outlet or other boxes. Wrap the putty completely around the back side of the box.
- F. Repeat steps until wall is complete.
- 5. MANUFACTURER'S INSTRUCTIONS FOR STEEL FRAMING
 - A. Same as for Wood Framing, except use fine thread screws for attaching QuietRock.
- MANUFACTURER'S INSTRUCTIONS OVER CONCRETE OR MASONRY
 Attach steel studs to concrete or masonry. At least 51 mm (2") steel studs 610 mm (24") OC are recommended.
 - B. Follow instructions for steel framing.
 - C. Refer to steel manufactures recommendations for fasteners.

7. MANUFACTURER'S INSTRUCTIONS FOR CEILINGS

- A. Consult local building codes on screw placement. Serious Materials recommends screws in rows 610 mm (24") apart, and in 305 mm (12") along the rows, or consulting with a professional to determine what is needed for your particular application.
- B. Follow directions for wood framing, steel framing or masonry.
- 8. FINISHING
 - A. Finish in accordance with Gypsum Association GA-216-07 and GA-214-07.
- 9. PROTECTION
 - A. Protect installed products until completion of project.
 - B. Touch up, repair or replace damaged products prior to Substantial Completion.

END OF SECTION



