



1. Product Name

QUIET QURL™ Impact Sound Control Products

- QUIET QURL™
- QUIET QURL SS

Acoustical Assurance

- RC Assurance™
- Space Assurance™

2. Manufacturer

Keene Building Products
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3. Product Description

BASIC USE

Keene Building Products manufactures QUIET QURL™, QQ Step Soft and Acoustical Assurance products that have been successfully installed to help provide impact sound control for a variety of applications:

- Multifamily construction, including apartments and condominiums
- Retrofit applications with exposed ceiling assemblies
- Radiant heated flooring, when pumped with lightweight concrete or gypsum concrete
- With hard surfaces, including concrete, stone, tile, vinyl, hardwood and QQ Step Soft for direct set tile and engineered hardwood applications
- With underlayments, such as FIRM-FILL® Gypsum Concretes, lightweight concrete, mortar beds and plywood
- With many types of subfloors (with or without ceiling assemblies, wood structural joists and ceilings) to achieve an IIC of 50 or greater

COMPOSITION & MATERIALS

QUIET QURL is produced from an extruded polymer matrix of tangled monofilaments. The entire product range is manufactured so that filaments heat weld to one another at the junctions to form a resilient structure that

absorbs noise when sandwiched in a mass/spring/mass building design.

TYPES

Apartment Grade

QUIET QURL 55/025

QUIET QURL is a 0.25" (6.4 mm) random filament, corrugated U-Groove core sound control mat, designed to limit impact noise between floors. When used in conjunction with 1" - 1.5" (25.4 - 38 mm) of FIRM-FILL, QUIET QURL can achieve code compliant IIC and STC numbers in most wood joist assemblies. There are 3 types of QUIET QURL 55/025:

- 55/025 MC - With a moisture control fabric that helps prevent moisture from passing through to the substrate
- 55/025 Regular - With a moisture resistant, needle punched, nonwoven fabric
- 55/025 SS - With a 0.04" - 0.11" (1 - 3 mm) recycled rubber, noise reducing separation layer

Condo Grade

QUIET QURL 60/040 HP

60/040 HP is a 0.41" (10 mm) random filament, cusped geometric-patterned core sound control mat designed to limit impact noise between floors for high performance multi-family projects. A separation material is heat laminated to the core surface so that FIRM-FILL gypsum concrete, lightweight concrete, plywood, mortar beds and tile backer materials can be used to create a floating floor. QUIET QURL 60/040 HP has tested above industry standards for IIC and STC. There are 3 types available:

- 60/040 MC - With a moisture control fabric that helps prevent moisture from passing through to the substrate
- 60/040 Regular - With a moisture resistant, needle punched, nonwoven fabric
- 60/040 SS - With a 0.04" - 0.11" (1 - 3 mm) recycled rubber, noise reducing separation layer

Luxury Grade

QUIET QURL 65/075

QUIET QURL 65/075 is a nominal 0.75" (19.1 mm) random filament, cusped geometric-patterned core sound control mat designed to limit impact noise between floors. The increased thickness provides extra airspace and additional resiliency for the highest noise control available in this thin configuration. This product is designed for retrofit of existing buildings where a ceiling assembly is not utilized, as well as for luxury grade condominiums. In laboratory and field performance testing, QUIET QURL 65/075 has been shown to add up to 35 extra IIC points. The 0.75" (19.1 mm) thickness of this

geometry is suitable for historic tax credit apartments or condominiums and for floating floors with FIRM-FILL gypsum concrete, lightweight concrete and traditional concrete. There are 3 types of QUIET QURL 65/075:

- 65/075 MC - With a moisture control fabric that helps prevent moisture from passing through to the substrate
- 65/075 Regular - With a moisture resistant, needle punched, nonwoven fabric
- 65/075 SS - With a 0.04" - 0.11" (1 - 3 mm) recycled rubber, noise reducing separation layer

QUIET QURL Reinforcement RWT-040

QUIET QURL RWT-040 is a random filament, geometric-patterned core crack suppression mat used to reinforce FIRM-FILL gypsum concrete and many types of concrete in thin applications. The 0.375" (9.5 mm) thickness provides the added strength needed when the FIRM-FILL gypsum concrete is lower than the traditional 1.50" (38 mm) underlayment.

Acoustical Assurance

RC Assurance

Acoustical Assurance is a line of cost-effective noise control products, including RC Assurance™ and Space Assurance™ that provide new methods of properly installing a gypsum board ceiling and wall, while achieving sound test results similar to those from a laboratory.

- RC Assurance is a 2" (50.8 mm) nail guard with a flange to prevent channel ride. The hardened steel clip is impenetrable by screw or nail. Additionally, RC Assurance adds 0.3125" (7.9 mm) to the assembly, allowing 1 1/4" (32 mm) screws to work properly without short circuit. Actual installation time is shortened because screws grab better to the resilient channel, and the gypsum board is easier to connect. A specific size resilient channel is recommended; the product is designed to work with RC Deluxe from Dietrich Metal Framing
- Space Assurance is a nonflammable, nonwoven fabric used as ceiling isolation in lieu of caulk. The material helps create space between gypsum board ceilings and structural walls and helps prevent resilient channels from coming into contact with other elements. After fastening the material to the structural wall, the gypsum board and resilient channels are butted against the Space Assurance. Any excess material is used to space the gypsum ceiling board from the gypsum wallboard

TABLE 1 PHYSICAL PROPERTIES OF POLYPROPYLENE CORE POLYMER

	55/025 MC	60/040 MC	65/075 MC	55/025	60/040	65/075	RWT-040	Space Assurance	RC Assurance
Thickness in (mm)	0.25 (6.4)	0.375 (9.5)	0.75 (19.1)	0.25 (6.4)	0.375 (9.5)	0.75 (19.1)	0.375 (9.5)	0.25 (6.4)	0.3125 (7.9)
Total weight oz/yc ² (g/m ²)	17.9 (607)	17.3 (587)	19.7 (668)	18.4 (624)	17.7 (600)	20.7 (702)	13.5 (458)	8.2 (278)	1 (33.9)
Core weight oz/yc ² (g/m ²)	14.9 (505)	14.2 (481)	16.7 (566)	14.9 (505)	14.2 (481)	16.7 (566)	12 (407)	-	-
Fabric weight oz/yc ² (g/m ²)	3 (102)	3 (102)	3 (102)	3.5 (119)	3.5 (119)	3.5 (119)	1.5 (51)	-	-

TABLE 2 PHYSICAL PROPERTIES OF MEMBRANE

	MC Products	
Thickness, in (mm)	0.2 (5)	0.2 (5)
Membrane weight oz/yc ² (g/m ²)	3 (102)	3 (102)
Pull strength MC/DC, N (cm)	60 (50)	60 (50)

TABLE 3 PACKAGING INFORMATION

	55/025 MC	60/040 MC	65/075 MC	55/025	60/040	65/075	RWT-040	Space Assurance	RC Assurance
Core width in (mm)	48 (1219)	48 (1219)	48 (1219)	48 (1219)	48 (1219)	48 (1219)	48 (1219)	3.0 (76)	-
Length ft (m)	100 (30.5)	100 (30.5)	28 (8.5)	100 (30.5)	100 (30.5)	50 (15)	75 (23)	150 (45.7)	-
Area ft ² (m ²)	400 (37)	400 (37)	200 (18.6)	400 (37)	400 (37)	200 (18.6)	300 (27.8)	37.5 (3.4)	-
Roll diameter in (mm)	22 (559)	21 (533)	23 (584)	22 (559)	21 (533)	23 (584)	19 (483)	24 (610)	-
Roll weight lb (kg)	50 (22.7)	48 (21.8)	29 (13)	51 (23)	49 (22.2)	29 (13)	-	21 (9.5)	-
Clips per box	-	-	-	-	-	-	-	-	500

BENEFITS

- Provides excellent sound isolation for both high and low frequencies
- Use of QUIET QURL products can contribute points toward LEED® certification
- Does not promote the growth of mold, mildew or bacteria
- Performs for wood frame construction and concrete structures
- All products are made from polypropylene, which does not absorb moisture
- QUIET QURL and Space Assurance products are Class A rated for fire resistance
- Available from trained licensed applicators from Hacker Industries, Inc.
- Acoustical Assurance products eliminate short circuits and flanking noises caused by the improper detailing of the gypsum wall and ceiling
- Provides a cost-effective means for designers to specify, from one company, a system on the top and bottom side of the assembly, with sound control application for walls

ACCESSORIES

QUIET QURL Perimeter Isolation is an accessory to the QUIET QURL sound control system. The product is placed around all penetrations and on all walls. One side includes a sticky film,

allowing the seam from wall to floor to be made more simply, often without tapping.

For recommendations on compatible adhesives, sealants and tapes, contact Keene Building Products.

PACKAGING

See Table 3.

4. Technical Data

APPLICABLE STANDARDS

ASTM International

- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- ASTM E413 Classification for Rating Sound Insulation
- ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine
- ASTM E989 Standard Classification for Determination of Impact Insulation Class (IIC)

APPROVALS

Underwriters Laboratories, Inc. (UL)

FIRE PERFORMANCE

QUIET QURL and Space Assurance products are manufactured in compliance with UL requirements and have a Class A fire rating per ASTM E84.

ACOUSTICAL PERFORMANCE

See Table 4.

PHYSICAL PROPERTIES

See Tables 1 and 2.

5. Installation

PREPARATORY WORK

Handle and store the product according to the manufacturer's recommendations.

Deliver materials in the original, unopened and undamaged containers with identification labels intact. Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by the manufacturer.

Verify that site conditions are acceptable for installation. Do not proceed until unacceptable conditions are corrected.



TABLE 4 IMPACT ISOLATION CLASSIFICATION (IIC) DATA

Subfloor Type	Ceiling	Floating Floor Type	Floor	IIC Number
55/025 & 55/025 MC				
Concrete	No Ceiling	FIRM-FILL® Gypsum Concrete	Vinyl	54
Concrete	No Ceiling	FIRM-FILL® Gypsum Concrete	Wood	55
Concrete	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Vinyl	64
Concrete	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Wood	68
Wood Truss Joists	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Wood	61
Wood Truss Joists	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Vinyl	56
60/040 & 60/040 MC				
Concrete	No Ceiling	FIRM-FILL® Gypsum Concrete	Vinyl	53
Concrete	No Ceiling	FIRM-FILL® Gypsum Concrete	Wood	55
Concrete	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Vinyl	64
Concrete	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Wood	68
Wood Truss Joists	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Wood	61
Wood Truss Joists	Ceiling with RC	FIRM-FILL® Gypsum Concrete	Vinyl	56
65/075 & 65/075 MC				
Concrete 4" (102 mm)	No Ceiling	3" (76 mm) Concrete	Concrete	62

METHODS

Follow all instructions and installation sheets provided by the manufacturer. For detailed installation procedures, refer to the manufacturer's website: www.keenebuilding.com.

MC Products

1. Staple or glue the QUIET QURL Perimeter Isolation material to the wall.
2. Roll the mat onto the floor, with the black core touching the adjacent black core and the fabric flap overlapping the adjacent piece.
3. Tape the seams with duct or cellophane tape; spray adhesive, such as Super 77 from 3M, works well on MC products. Use duct tape to tape the seams from the wall to the floor. Position a piece of wallboard paper tape, folded on the edge, and tape it flat.
4. When taping is complete, pump FIRM-FILL gypsum concrete to a minimum 1" (25.4 mm).

RC Assurance

1. Resilient channels should be RC Deluxe manufactured by Dietrich or an equivalent.
2. RC Assurance is a spacer to be used in every location where a resilient channel is connected to a joist. It is designed to snap onto the 0.5" (12.7 mm) flange of a resilient channel with the pinch point on the top and bottom. The 90 degree leg points down toward the open area of the resilient channel.
3. Spacing for Resilient Channels varies according to UL Assembly and may be between 12" (305 mm) on center and 24" (610 mm) on center.

Please consult the project specifications for proper spacing.

4. Lay out all resilient channels, following the recommended guidelines of the Gypsum contractors Association, UL and the project specifications.
5. When fastening the resilient channel to the joist using RC Assurance and RC Deluxe from Dietrich:
 - Snap enough RC Assurance onto the flange of the resilient channel to fasten the entire 12' (3.6 m) section. Use 1 per joist connection. RC Assurance will lock and slide to the proper position.
 - Use a 1 3/4" (44 mm) Type S bugle head screw to fasten the assembly to the joist.
 - Complete the installation of the channel leaving a small gap between the structural wall elements and the butt end of the resilient channel. Where possible, utilize the screw holes in the resilient channel; where alignment with the center of a joist is not possible, screw through the resilient channel to fasten to the joist.
6. When seaming the resilient channel, most assemblies require a 4" (102 mm) overlap of resilient channel butt ends. For this application, slide the 2 flanges into the RC Assurance and screw through both pieces to fasten to the joist.
7. To connect the gypsum board to the resilient channel, consult the UL Assembly specification

or the project specification for the type of screw to install. Typically, Type "S" or Type "W" bugle head screws are required. RC Assurance is often installed with 1.25" (32 mm) Type "S" screw for the first layer of gypsum board and with a 1 7/8" (48 mm) Type "S" screw for the second layer.

8. Do not install a resilient channel with only 1 fastener and with only 1 RC Assurance

Space Assurance

This product is designed for use with QUIET QURL sound mat and RC Assurance clips for resilient channels.

1. Space Assurance is a flame retardant fabric that is fastened to the wall structure to space the proper dimension around the ceiling. It is specifically designed to be used with gypsum wallboard in multifamily construction.
2. Space Assurance is installed, around the perimeter of all rooms, with mechanical fasteners or with spray adhesive.
3. Install Space Assurance prior to the installation of all ceiling elements, resilient channels, RC Assurance and gypsum ceilings or walls.
4. Cut Space Assurance to the proper length of the wall.
5. Using a mechanical staple hammer, fasten the Space Assurance to wood wall framing at the top of the wall where the joists meet the wall. Place 1 fastener every 12" (305 mm). For metal framing, use spray adhesive such



- as Super 77 from 3M. Do not place with waves; pull tightly when fastening.
6. Install resilient channels abutting the Space Assurance. Do not force the resilient channels to the wall elements.
 7. Install the gypsum board ceiling abutting the Space Assurance without gap, but never compress the Space Assurance to less than 0.125" (3.2 mm).
 8. Pull the Space Assurance away from the wall. Leave enough room to tuck the gypsum board wall under and allow the excess Space Assurance to protrude from the joint. If the gap is greater than the Space Assurance, caulk with flame retardant acoustic caulk.
 9. Cut the excess Space Assurance; mud and tape the corner in the usual manner.

6. Availability & Cost

AVAILABILITY

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

COST

Budget installed cost information can be obtained from the manufacturer upon request.

7. Warranty

Products from Keene Building Products are warranted for 1 year to the initial purchaser. Contact the manufacturer for complete warranty details.

8. Maintenance

These products require no maintenance when installed in accordance with the recommendations of Keene Building Products.

9. Technical Services

A staff of factory trained service personnel offers design assistance and technical support. For technical assistance, contact Keene Building Products.

10. Filing Systems

- MANU-SPEC®
- Additional product information is available from the manufacturer.