

creating comfortable spaces  
with **SOUND** in mind



Learn more about

- Quiet Qurl<sup>®</sup>
- Cylent Assurance<sup>™</sup> Clip
- GSL<sup>®</sup> and more



## ACOUSTIC PRODUCT GUIDE

from Keene Building Products



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Acoustic Product Guide From Keene Building Products



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# Acoustics Explainer

## Learning about Noise

Noise control in multi-family housing, especially in wood frame construction, has been a challenge for years.

- Noise complaints are the second most litigated issue in multi-family construction today.
- Low frequency noise, or the thudding of footfall is the biggest complaint.

Two types of sounds that are measured:

- Airborne (music and voices). Measured by STC (Sound Transmission Class).
- Impact (objects dropping and footfall). Measured by IIC (Impact Insulation Class).

### STC or Sound Transmission Class

- A 50 STC rating is the minimum code for laboratory tests and 45 F-STC for field testing
- Predominantly controlled by adding MASS to the system as well as properly sealing all air-leakages
- Applicable in both walls and floor-ceiling assemblies

### IIC or Impact Insulation Class

- A 50 IIC rating is the minimum code required for laboratory test and 45 F-IIC for field testing
- Increased ISOLATION is the key factor in increasing IIC
- This is typically done using a combination of sound mats, resilient channels and/or isolation clips

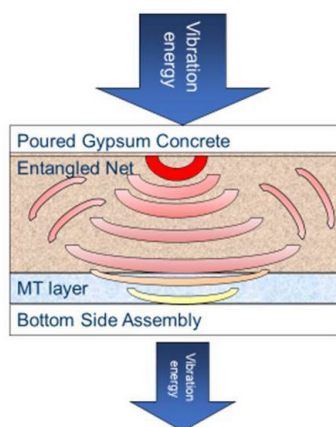
Quiet Qurl Sound Mats Are a Three-Dimensional Entangled Net Plastic:

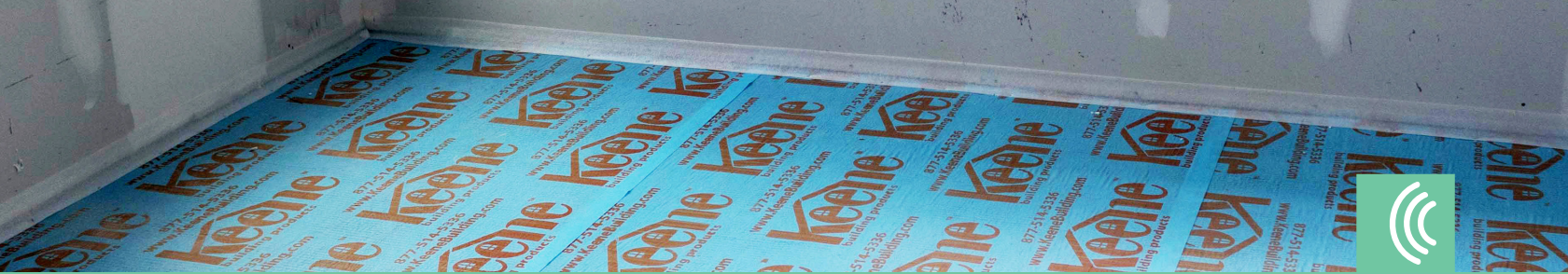
- Reduces the contact with the structural subfloor by 90%.
- Decouples vibration
- Reduces heat and pressure buildup

Critical functions of an entangled net:

Impact Noise Creates:

- **Vibration**
- **Heat**
- **Pressure Build Up**





# System Options

## Thickness & Fabric Matter

Vibrations travel through connections. By limiting direct connections (such as between the finished floor and the framing assembly) we can effectively disrupt the path for noise to pass through our floors and walls. **Quiet Qurl® is the perfect solution** to this troublesome issue. Keene Building Products is raising the bar with Quiet Qurl's product line by offering solutions in different thicknesses and with enhanced fabric options for your performance needs. All products are designed for use with underlayments such as gypsum concrete and light-weight concrete.

**Quiet Qurl® systems are available from 0.125" to 0.75" with fabric options including:**



### Muffling Technology (MT)

- Available in all thicknesses
- Highly compressible cotton-like material
- Enhances decibels that pass through sound mat by 3 to 5 IIC points
- Load of gypsum concrete compresses the MT into the larger filaments of the sound mat
- No additional thickness to Quiet Qurl®



### Reinforced Fabric (RF)

- Available in all thicknesses
- Used when additional reinforcement is needed.
- A reinforced fabric is laminated to the surface increasing tensile strength of gypsum concrete.





# Quiet Qurl<sup>®</sup> MT

## Muffling Technology Enhancement

**Muffling Technology** or “MT” uses a high loft fabric that weighs very little and is easily compressible with little pressure. When loaded with an underlayment such as gypsum concrete in a sound control application, the sound performance is dramatically enhanced.

### Quiet Qurl<sup>®</sup> MT Fabric

- MT fabric imbeds itself into the entangled net when compressed
- Helps reduce pressure wave buildup from impact sound
- Enhances IIC rating of Quiet Qurl by 3 to 5 points

### Pouring Gypsum Concrete over Quiet Qurl

Refer to the chart below for the appropriate thickness of gypsum concrete. Different versions of Quiet Qurl require different thicknesses of **gypsum concretes**:

Versions of Quiet Qurl	Standard	MT
QUIET QURL 013	0.75”	0.75”
QUIET QURL 025	1.0”	1.0”
QUIET QURL 040	1.0”	1.25”
QUIET QURL 075	1.5”	1.5”



### Applications

- ✓ Multi-family wood frame and concrete construction
- ✓ For high-end results in a nominal 0.25” sound mat
- ✓ Works with gypsum underlayments from 0.75” thickness and greater

### Benefits

- ✓ Performance like 0.75” thick Quiet Qurl in a 0.25” thick mat
- ✓ Cotton like MT layer acts to “Muffle” noise
- ✓ Performs from 125 Hz to 3150 Hz
- ✓ Up to 5 IIC point enhancement



# Quiet Qurl<sup>®</sup> RF

## Reinforced Fabric

### Quiet Qurl<sup>®</sup> RF Fabric

- Available on all versions of the standard Quiet Qurl<sup>®</sup> product.
- Designed for use when the gypsum concrete pour is not to standard thickness (or when additional reinforcement is needed).
- Matches a reinforced fabric and scrim, which are bonded together, in combination with the standard “entangled net” core material.
- A reinforced fabric is laminated to the surface of an open mesh reinforcing scrim to enhance bonding of the gypsum or lightweight concrete

### Pouring Gypsum Concrete over Quiet Qurl<sup>®</sup>

Refer to the chart below for the appropriate thickness of gypsum concrete. Different Versions of Quiet Qurl<sup>®</sup> require different thicknesses of **gypsum concretes**:

Versions of Quiet Qurl <sup>®</sup>	Standard	RF
QUIET QURL 013	0.75”	0.75”
QUIET QURL 025	1.0”	0.75”
QUIET QURL 040	1.0”	1.0”
QUIET QURL 075	1.5”	1.5”



### Benefits

- ✓ Best performing product in wood frame construction when compared to solid mats
- ✓ Provides the thinnest underlayment thickness available on the market for wood frame
- ✓ A Class A fire-rated product
- ✓ Passes a Robinson Wheel Test with the following minimum thicknesses: 0.75” with QQ 025, 1.0” with QQ 040, and 1.5” with QQ 075.

### Applications

- ✓ Multi-family construction: apartments and condominiums
- ✓ Radiant-heated flooring when poured with gypsum or lightweight concrete
- ✓ Compatible with hard surfaces: stone, tile, vinyl and hardwood
- ✓ With topping layers, such as gypsum concrete, lightweight concrete, mortar beds and plywood. At greatly reduced thicknesses



# Multi-Family Underlayments

from Dependable, LLC

Dependable's GSL® multi-family line provides a one source system for sound control and gypsum underlayments. Dependable's variety of gypsum self-levelers (GSL) and Keene Building Product's Quiet Qurl® come together providing a floor ready for covering while meeting or exceeding flooring and sound codes. All GSL Products are UL Approved. Dependable provides durability, luxury, and comfort in new multi-family construction.



### GSL® K2.6

PSI Range:  
2,000 - 3,500

A standard gypsum underlayment for wood frame and precast concrete construction



### GSL® M3.4

PSI Range:  
3,000 - 4,500

A premium high strength gypsum for renovations and high traffic projects



### GSL® RH

PSI Range  
2,200 - 3,500

Gypsum cement formulated for radiant floor heating applications

### GSL® ALL PURPOSE SEALER

Use with GSL products to enhance the bond between the underlayment and finished floor covering

### GSL® PRIMER

Use with GSL products to enhance the bond between the underlayment and various substrates

### CONSOLICRETE™

A two-part epoxy designed to repair damaged substrates

Please contact us at 877-514-5336 or [info@dependable.us](mailto:info@dependable.us) so our technical team can help determine which product most adequately fits your projects needs.





# Noise Control Products

from Keene Building Products

Product Name	Minimum Gypsum Thickness	Roll Length	Area
<b>☞ Mat Thickness 0.125 Inches / 3.0 mm</b>			
Quiet Qurl 013	0.75 inch	100 ft.	400 sq. ft.
Quiet Qurl 013 MT	0.75 inch	100 ft.	400 sq. ft.
Quiet Qurl 013 RF	0.75 inch	100 ft.	400 sq. ft.
Quiet Qurl 013 RF MT	0.75 inch	100 ft.	400 sq. ft.
<b>☞ Mat Thickness 0.25 Inches / 6.0 mm</b>			
Quiet Qurl 025	1.0 inch	100 ft.	400 sq. ft.
Quiet Qurl 025 MT	1.0 inch	50 ft.	200 sq. ft.
Quiet Qurl 025 RF	0.75 inch	100 ft.	400 sq. ft.
Quiet Qurl 025 RF MT	1.0 inch	50 ft.	200 sq. ft.
<b>☞ Mat Thickness 0.40 Inches / 10.0 mm</b>			
Quiet Qurl 040	1.0 inch	100 ft.	400 sq. ft.
Quiet Qurl 040 MT	1.25 inch	50 ft.	200 sq. ft.
Quiet Qurl 040 RF	1.0 inch	100 ft.	400 sq. ft.
Quiet Qurl 040 RF MT	1.0 inch	50 ft.	200 sq. ft.
<b>☞ Mat Thickness 0.75 Inches / 19.0 mm</b>			
Quiet Qurl 075	1.5 inch	50 ft.	200 sq. ft.
Quiet Qurl 075 MT	1.5 inch	50 ft.	200 sq. ft.
Quiet Qurl 075 RF	1.5 inch	50 ft.	200 sq. ft.
Quiet Qurl 075 RF MT	1.5 inch	50 ft.	200 sq. ft.
<b>☞ Additional Products</b>			
Quiet Qurl Reinforcement RWT	0.375 in./9.0 mm	75 ft.	300 sq. ft.
Quiet Qurl Perimeter Isolation 025	0.25 in./6.0 mm	250 ft.	62.5 sq. ft.
Quiet Qurl Perimeter Isolation 2"	0.125 in./3.0 mm	550 ft.	183.3 sq. ft.
Quiet Qurl Perimeter Isolation 3.5" with EASY-FOLD	0.125 in./3.0 mm	550 ft.	183.3 sq. ft.
QQ Step Soft 2 mm	2.0 mm	50 ft.	200 sq. ft.
QQ Step Soft 5 mm	5.0 mm	25 ft.	100 sq. ft.
QQ Step Soft 6 mm	6.0 mm	25 ft.	100 sq. ft.
QQ Step Soft 8 mm	8.0 mm	20 ft.	80 sq. ft.
QQ Step Soft 10 mm	10.0 mm	20 ft.	80 sq. ft.
Space Assurance	0.25 in./6.0 mm	100 ft.	25 sq. ft.
Cylent Assurance Clip			

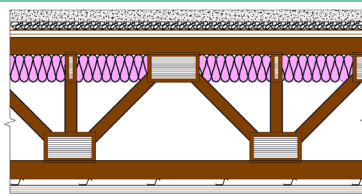




# Sound Test Results

Quiet Qurl® & GSL® Products

## OPEN WEB Assemblies



Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cyment Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	HIIC	Test Number	
Quiet Qurl 013	3/4"	16"	3 1/2" batt	16" o.c.	1 layer	Bare	53	x		100236043CRT-001b	
						Ceramic Tile	x	56		100236043CRT-001a	
						Eng. Wood	x	56		100236043CRT-001c	
						Vinyl	x	53		100236043CRT-001d	
Quiet Qurl 013 MT	3/4"	18"	3 1/2" batt	16" o.c. w/ Cyment Assurance Clip	1 layer	Bare	60	57		H7706.01-113-11-R0	
						Eng. Wood	60	64		H7706.04-113-11-R0	
						Vinyl	60	62		H7706.03-113-11-R0	
			3 1/2" batt	16" o.c.	1 layer	Bare	60	57	58		Q4364.01A
						Vinyl Plank	60	58	61		Q4364.01
						Click LVT/Pad	60	60	69		Q4364.01B
	1"	18"	3 1/2" batt	16" o.c.	1 layer	Vinyl 5mm (Glued) w/Pad	60	61	74		Q4364.01C
						Bare	62	58	57		Q4364.02A
						Vinyl Plank	62	61	63		Q4364.02
						Click LVT/Pad	62	63	72		Q4364.02B
Quiet Qurl 025	1"	18"	3 1/2" batt	16" o.c.	1 layer	Vinyl	59	57	61	M9459.01-113-11-R0	
			Full Cavity	12" o.c.	1 layer	Bare	61	55	54	FC23-0753	
			Full Cavity	12" o.c.	1 layer	Vinyl	61	59	70	FC23-0754	
Quiet Qurl 025 MT	1"	18"	6" batt	16" o.c.	2 layers	Bare	61	58		F09-1104	
						Eng. Wood	x	62			
						Vinyl	x	61			
			3 1/2" batt	16" o.c.	1 layer	Bare	62	56		J4155.00A	
						Ceramic Tile	62	58		J4155.05	
						Eng. Wood	62	56		J4155.03	
						Vinyl	62	57		J4155.01	
						LVT	62	56		J4155.02	
						Bare	62	58		J4155.00B	
						Ceramic Tile	62	62		J4155.10	
Eng. Wood	62	61		J4155.08							
Vinyl	62	60		J4155.06							
LVT	62	61		J4155.07							
Quiet Qurl 040	1 1/4"	18"	3 1/2" batt	16" o.c.	1 layer	Bare	58	52		I1132.01	
						Ceramic Tile	58	55		I1132.015	
						Eng. Wood	57	57		I1132.03	
						Vinyl / Pad	58	58		I1132.02	
			16" o.c. w/ Cyment Assurance Clip	16" o.c.	1 layer	LVT / Pad	58	58		I1132.04	
						Bare	60	56		I1132.01	
						Eng. Wood	60	62		I1132.03	
						Vinyl / Pad	59	62		I1132.02	
LVT / Pad	60	64		I1132.04							
Quiet Qurl 040 MT	1"	16"	3 1/2" batt	16" o.c.	1 layer	Bare	x	58		3158385CRT-001d	
Quiet Qurl 075	1 1/2"	18"	6" batt	16" o.c.	1 layer	Bare	55	59			
						Ceramic Tile	x	60			
						Eng. Wood	x	61			
						Vinyl	x	60			

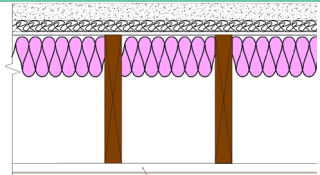
UL Designs L528, L529, L534, L542, L546, L550, L556, L558, L562, L563, L574, L576, L577, L579, L581, L583, L585, L586, L587, L592, M500, M501, M503 (Equivalent to L521), M508, M510



# Sound Test Results

Quiet Qurl® & GSL® Products

## NOMINAL WOOD JOIST Assemblies



Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	Test Number
Quiet Qurl 013	3/4"	10"	3 1/2" batt	16" o.c.	1 layer	Bare	57		100302175CRT-001b
						Ceramic Tile		50	100302175CRT-001a
						Eng. Wood		55	
						Vinyl		51	
Quiet Qurl 025	1"	10"	3 1/2"	16" o.c.	1 layer	LVT	60	52	J4551.05
						Ceramic Tile		52	3163170CRT-001b
						Eng. Wood		55	
		12"	3 1/2"	24" o.c.	1 layer	Bare	54	53	3147950CRT-001b
						Ceramic Tile		52	3147950CRT-001a
						Eng. Wood		54	
Quiet Qurl 025 MT	1"	10"	3 1/2" batt	16" o.c.	1 layer	Bare	56	53	100302175CRT-002c
						Ceramic Tile		57	3163170CRT-001a
						Eng. Wood		57	3163170CRT-001a
						Vinyl		53	100302175CRT-001c
Quiet Qurl 040 MT	1 1/4"	10"	3 1/2" batt	16" o.c.	1 layer	Bare	57	54	100340878CRT-002b
						Vinyl		54	100340878CRT-001b
UL Designs L006, L201, L202, L208, L209, L210, L211, L212, L501, L502, L503, L504, L505, L506, L507, L508, L509, L510, L511, L512, L513, L514, L515, L516, L517, L519, L520, L522, L523, L525, L526, L532, L533, L535, L536, L537, L539, L540, L541, L545, L557, L569, L588, L593, L598, M504, M514, M517, M518, M519, M528, M531, M538									

## WOOD RETROFIT Assemblies



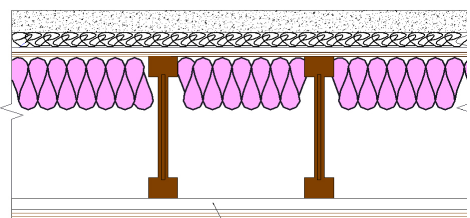
Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	Test Number
Quiet Qurl 025	1"	14"	None	None	None	Vinyl	51	52	
Quiet Qurl 025 MT	2"	12"	None	None	None	Bare	58	47	F10-413
						Ceramic Tile		47	
						Eng. Wood		50	
						Vinyl		50	
Quiet Qurl 075	2"	12"	None	None	None	Bare	58	52	F10-413
						Ceramic Tile		52	
						Eng. Wood		55	
						Vinyl		55	
Quiet Qurl 075 MT	2"	12"	None	None	None	Bare	60	56	F10-413
						Ceramic Tile		58	
						Eng. Wood		59	
						Vinyl		59	



# Sound Test Results

Quiet Qurl® & GSL® Products

## JOIST Assemblies



Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	Test Number
Quiet Qurl 013	3/4"	11 7/8"	3 1/2" batt	16" o.c.	2 layers	Ceramic	58	56	100302175CRT-001a
						Eng. Wood	58	58	100302175CRT-001a
						Vinyl	58	52	100302175CRT-001a
Quiet Qurl 025	1"	11 7/8"	3 1/2" batt	16" o.c.	1 layer	Ceramic	53	54	3123796CRT-001b
					2 layers	Eng. Wood	53	57	
Quiet Qurl 025 MT	1 1/4"	11 7/8"	3 1/2" batt	12" o.c.	2 layers	LVT	61	53	J4551.04
						Bare		54	100430978CRT-001g
						Ceramic Tile		56	
						Eng. Wood		59	
Quiet Qurl 040	1 1/2"	14"	5 1/2" batt	24" o.c.	2 layers	Vinyl		56	3103841CRT-001a
						Bare		53	3103841CRT-001a
	1 1/4"	11 7/8"	3 1/2"	16" o.c.	2 layers	Eng. Wood		56	3103841CRT-001a
						LVT	61	53	J4551.02
Quiet Qurl 040 MT	1"	11 7/8"	3 1/2" batt	16" o.c.	2 layers	Bare	57	60	WEAL 4212-011 (Field Test)
						Ceramic Tile		59	
						Eng. Wood		61	
						Vinyl		61	

UL Designs L518, L530, L538, L537, L570, L583, L589, L590, M502, M506, M511, M512, M515, M530, M535

## CONCRETE Assemblies

Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	HIIC	Test Number
Quiet Qurl 013	3/4"	9"	None	None	None	Bare	55	48		F18-0375
Quiet Qurl 025	1"	6"	None	None	None	Vinyl		54		3033285-003
			3 1/2" batt	16" o.c.	1 layer	Vinyl		63		3033285-002
Quiet Qurl 040	1"	6"	None	None	None	Vinyl		53		3033285-002
			3 1/2" batt	16" o.c.	1 layer	Eng. Wood		55		
	2 3/4"	8"	None	None	None	Eng. Wood		64		
						Bare	63	56	6853.01-202-10	
Quiet Qurl Step Soft 1mm	3/4"	8"	None	None	None	5mm Novalis Fave	55	59	65	P1778.01-113-11-R0
Quiet Qurl Step Soft 1mm	3/4"	8"	None	None	None	7mm LVP	55	60	67	P1778.02-113-11-R0

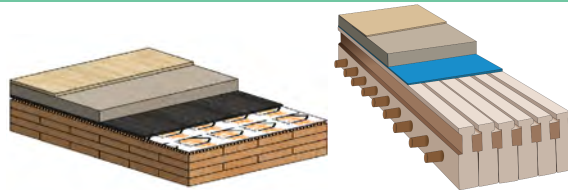
UL Designs J917, J919, J920, J924, J927, J931, J957, J991, J994



# Sound Test Results

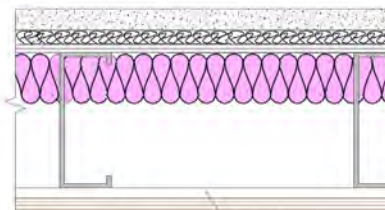
Quiet Qurl® & GSL® Products

## CLT System Assemblies



Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	HIIC	Test Number
5mm Quiet Qurl Step Soft Over Quiet Qurl 040 MT	2.5" GSL M3.4	5-Ply CLT	None	None	None	5.5mm LVT		53		K3686.06
5mm Quiet Qurl Step Soft Over Quiet Qurl 075 MT	2.5" GSL M3.4	5-Ply CLT	None	None	None	5.5mm LVT		56		K3686.03
Quiet Qurl 075 MT	2" GSL M3.4	5-Ply CLT	None	None	None	5.5mm LVT		54		K3686.02
KeedeRoll MT	1" Dependable Platform L2	5-Ply CLT	None	None	None	5.5mm LVT		58		K3686.04
Quiet Qurl 040MT	2" GSL M3.4									
KeedeRoll MT	1" Dependable Platform L2	5-Ply CLT	None	None	None	5.5mm LVT		60		K3686.01
Quiet Qurl 040MT	2" GSL M3.4									
Tred-Mor 3700 Over Quiet Qurl 075 MT	GSL M3.4 (3,500 PSI)	5 Ply Katera CLT	None	None	None	2mm Vinyl w/Pad	56	60	68	P9860.04
						Engineered Wood	56	58	63	P9860.05
						Carpet & Pad	57	85	92	P9860.06
Tred-Mor 3700 Over Quiet Qurl 075 MT	GSL M3.4 (3,500 PSI)	Structure Craft Dowellam™	None	None	None	2mm Vinyl w/Pad	58	58	68	P9860.10
						Engineered Wood	50	58	60	P9860.11
						Carpet & Pad	59	79	93	P9860.12

## STEEL JOIST Assemblies



Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	Test Number
Quiet Qurl 025 MT	1 1/4"	#8 Trade-Ready Joist	3 1/2" batt	12" o.c.	1 layer	Bare	55	53	184607CRT-002c
						Ceramic Tile		56	
						Eng. Wood		57	
						Vinyl		57	

UL Designs G553, G561, G565, G577, G578, G579, G580, G581, G582, L524, L527, L543, L549, L551, L552, L559, L560, L564, L565, L568, L573, M513, M536



# Topical Sound Mats

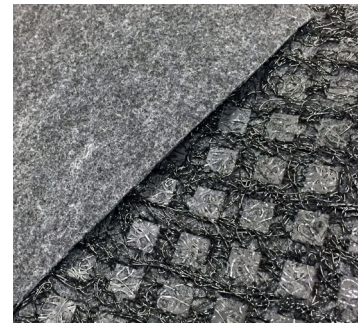
KeedeRoll™



SPACER ASSEMBLY FOR PREVENTING AN ACOUSTIC SHORT CIRCUIT IN A BUILDING  
Patent No.: US 8,136,320 B2

## KeedeRoll™ MT

KeedeRoll™ MT combines our patented Muffling Technology with our uncoupling KEEDE technology to create a quiet yet durable subfloor. Specifically designed for ceramic tile, this product contains all the benefits of both an uncoupling mat and a sound mat.



## KeedeRoll™ 100

This uncoupling mat provides a fast, durable and cost effective solution for tile installation. The technology works by absorbing subfloor movements and reinforcing mortar; while the fabric allows for shearing movement to take place by separating the subfloor from the tile or natural stone.



## KeedeRoll™ 300

This product offers the same uncoupling benefits of KeedeRoll™ 100, but with added moisture protection. The specially designed fabric is completely water resistant, forming a barrier between the tile and your subfloor.





# Topical Sound Mats

## Quiet Qurl Step Soft™



**QQ Step Soft™** is a sound deadening recycled rubber flooring underlayment designed to promote quiet living and improve sound ratings.

**Sound Tests:** ASTM E492 and ASTM E2179

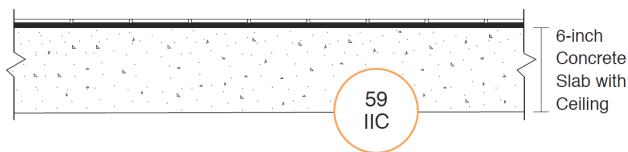
- Offered in 2-15mm thickness
- Effective impact noise reduction
- Crack isolation capabilities
- Engineered hardness
- Increased dynamic-to-static load ratio
- Recycled material
- Low VOC content
- High density
- Low compressibility
- 95% + recycled material
- LEED eligible

**QQ Step Soft's** rubber material provides a resilient layer within the flooring assembly for reducing vibration noise.

**QQ Step Soft™** is a critical component in meeting International Building Code requirements for ceiling/floor noise reduction performance.

**QQ Step Soft™** passes the Federal Flammability Standard, meets CHPS standards for VOCs, and passes the ASTM C627 reliability standard for residential use.

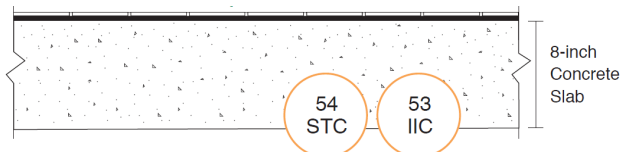
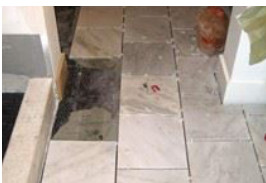
### Ceramic Tiles over **QQ Step Soft™ 5mm**



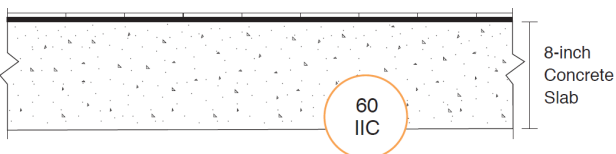
### Ceramic Tiles over **QQ Step Soft™ 5mm**



### Ceramic Tiles over **QQ Step Soft™ 5mm**



### Click Laminate over **QQ Step Soft™ 5mm**





# Ceiling Acoustics

Cylent Assurance Clip™



CLIP FOR ACOUSTICAL WALL OR CEILING MOUNT  
Patent No. - US 10,385,568 B2

Ceiling isolation is as important to noise control as the floor isolation system. Unfortunately, the bottom side remains a weak link. Acousticians and architects design ceiling systems properly, but many problems occur during installation. **Cylent Assurance™ Clip** and **Space Assurance™** are cost-effective products that take the difficulty out of ceiling isolation.

### Superior Performance in Wood Frame Construction:

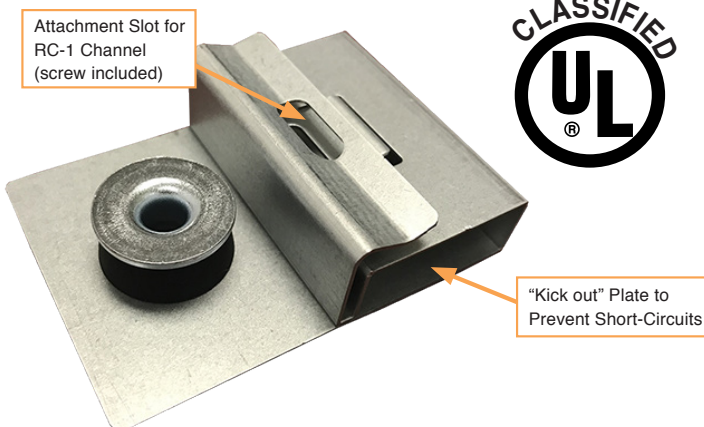
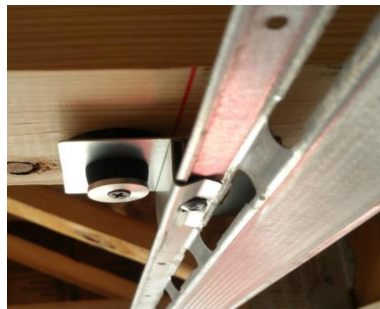
**Cylent Assurance™ Clip** is a resilient channel vibration isolation clip, engineered to significantly reduce low frequency noise transfer in ceiling/wall assemblies used in modern multi-family construction. It can work with any type of resilient channel. All other vibration isolation clips available on the market today are limited in their application. Only Keene offers a vibration isolation clip that can work with any type of standard or generic resilient channel.

## The KEENE Complete Acoustic System

- 3/4" GSL® K2.6
- Quiet Qurl® 013 MT
- Cylent Assurance™ Clip
- Space Assurance™

Floor Finish	STC	IIC
Vinyl Plank	60	62
Engineered Wood	60	64

\*18" Open Web Truss



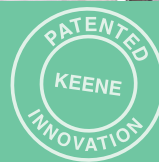
### Cylent Assurance™ Clips

- ✓ US Patent issued
- ✓ Tested ceiling & wall assemblies
- ✓ Designed for use with any RC-1 channel
- ✓ Ceiling joists: I-joist, open web truss, nominal lumber, metal joists, & metal studs
- ✓ Most cost-effective option on the market
- ✓ Enhances the acoustic performance of ceilings & walls
- ✓ Luxury system performance of 60+ IIC & STC
- ✓ Fast & easy installation



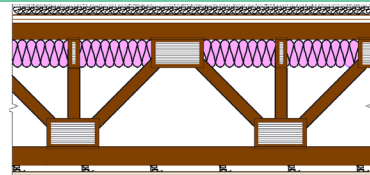
# Sound Test Results

Ceiling Acoustics™



SPACER ASSEMBLY FOR PREVENTING AN ACOUSTIC SHORT CIRCUIT IN A BUILDING  
Patent No.: US 8,136,320 B2

## OPEN WEB Assemblies



Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	STC	IIC	Test Number
Quiet Qurl 013 MT	3/4"	18"	3 1/2" batt	16" o.c. w/ Cylent Assurance Clip	1 layer	Bare	60	57	H7706.01-113-11-R0
						Eng. Wood	60	64	H7706.04-113-11-R0
						Vinyl	60	62	H7706.03-113-11-R0
Quiet Qurl 025 MT	1"	18"	3 1/2" batt	16" o.c. w/ Cylent Assurance Clip	1 layer	Bare	62	58	J4155.00B
						Vinyl	62	60	J4155.06
						LVT	62	61	J4155.07
						Eng. Wood	62	61	J4155.08
						Ceramic Tile	62	62	J4155.10
Quiet Qurl 040	1 1/4"	18"	3 1/2" batt	16" o.c. w/ Cylent Assurance Clip	1 layer	Bare	60	56	I1132.01
						Vinyl / Pad	59	62	I1132.02
						Eng. Wood	60	62	I1132.03
						LVT / Pad	60	64	I1132.04

UL Designs: L510, L518, L523, L530, L533, L534, L535, L538, L546, L547, L550, L556, L558, L563, L569, L570, L574, L576, L577, L579, L585, L587, L589, L590, L592, L593, L598, M500, M501, M502, and M503

## Various Assemblies - Field Testing

Keene Sound Mat	GSL Gypsum Concrete Depth	Framing Depth	Insulation Type	RC Channel / Cylent Assurance Clip	Layer(s) of Gypsum Board	Floor Covering Type	NNIC	NISR	LIR <sup>1</sup>	NHIR <sup>1</sup>	ASTC	AIC	Test Number
3/4" Entangled Net Sound Mat	1-1/2"	16" TJI	Full Cavity	RCSD / 12" o.c. w/ Cylent	2 layer / 5/8"	Vinyl	63	68	78	73	63	61	F19-1765 / F19-1768
Quiet Qurl 013 MT	3/4"	16" Open Web	3 1/2" batt	Generic RC 16" o.c. w/ Cylent Assurance Clip	1 layer 5/8"	Vinyl					57	59	Available Upon Request
Quiet Qurl 013 MT	3/4"	18" Open Web	3 1/2" batt	Generic RC 16" o.c. w/ Cylent Assurance Clip	1 layer 5/8"	Vinyl			64	59	59	54	F19-2240 / F19-2241
3/4" Entangled Net Sound Mat	1-1/2"	TJI	6" batt	Cemco RC-1 RC Channel @ 16"	2 layer / 5/8"	Bare	55	49	32	50			Before Cylent Assurance Clips F19-0270 / F19-0271
				Cemco RC-1 RC Channel @ 16" w/Cylent Assurance Clip	2 layer / 5/8"	Bare	58	55	61	55			After Cylent Assurance Clips F19-0367 / F19-0368
Quiet Qurl 040	1-1/8"	2" x 12" Solid Wood Joist	13" batt	RC Channel @ 12" w/ Cylent Assurance Clip	1 layer 5/8"	LVP	60	61	61	69			F19-2605 / F19-2608

<sup>1</sup> LIR and NHIR - John Loverde and Wayland Dong, A dual-rating method for evaluating impact noise isolation of floor-ceiling assemblies. J. Acoust. Soc. Am., 141, 428-440 (2017). <http://dx.doi.org/10.1121/1.4973868>





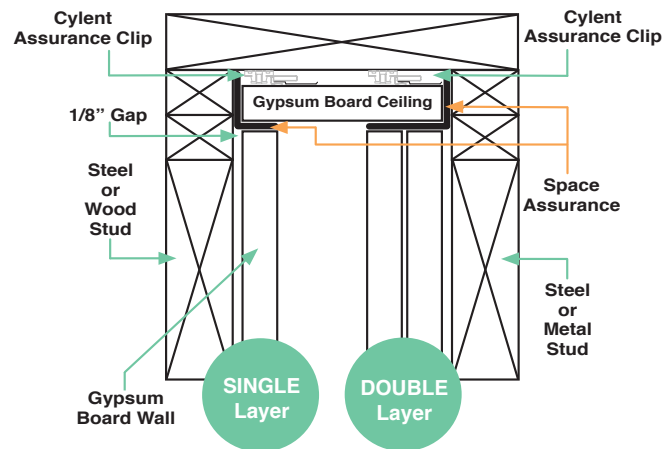
# Ceiling Acoustics

## Space Assurance™



SPACER ASSEMBLY FOR PREVENTING AN ACOUSTIC SHORT CIRCUIT IN A BUILDING  
Patent No.: US 8,136,320 B2

**Space Assurance™** is a ceiling perimeter isolation that is made up of a UL approved, flexible, flame resistant polyester fabric. It is used as a fastener line, virtually assuring the proper detail between the wall and ceiling eliminating one of the most common paths for flanking noise in multi-family construction.



### Space Assurance™

- ✓ Proactively creates space between gypsum ceilings and walls
- ✓ Eliminates need for acoustical caulk at wall ceiling line
- ✓ Simple to inspect for proper spacing
- ✓ Eliminates flanking paths for noise
- ✓ Quick installation that saves time and money
- ✓ Only UL-listed joint assembly with a gap





# Ceiling Acoustics

RC Assurance™



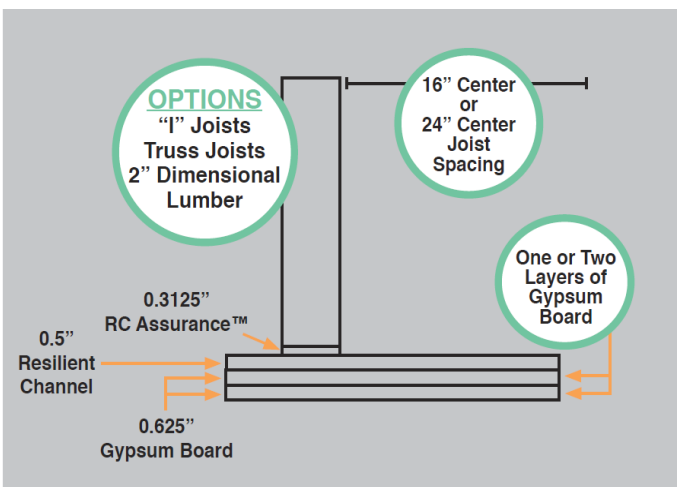
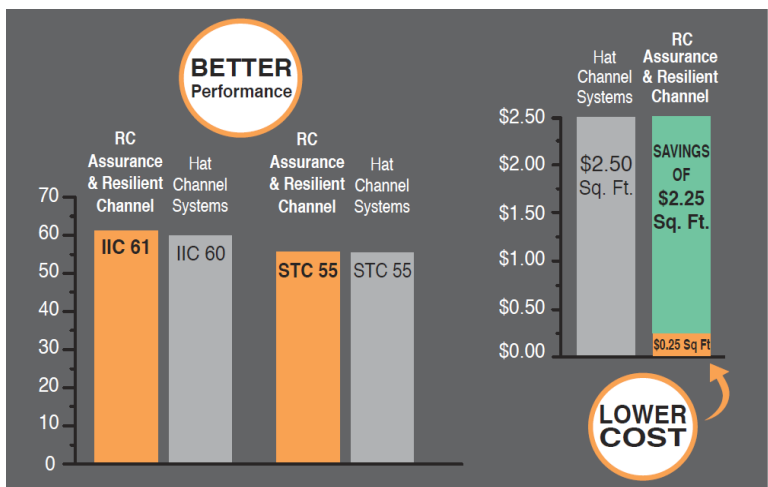
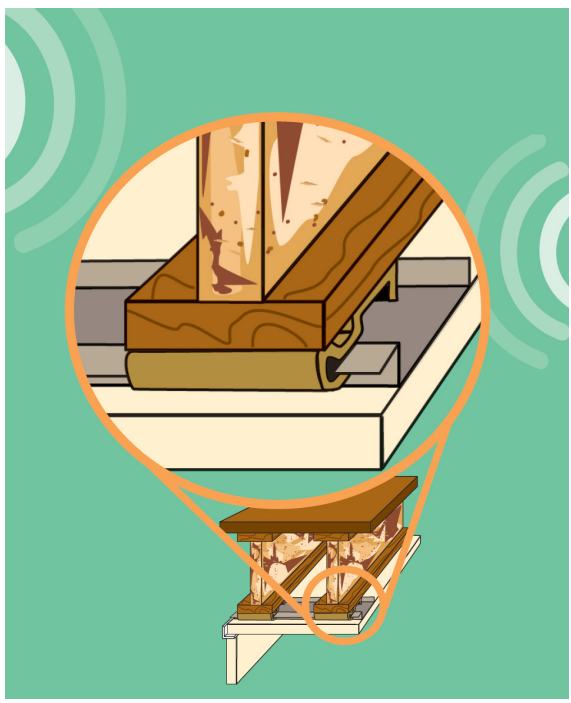
SPACER ASSEMBLY FOR PREVENTING AN ACOUSTIC SHORT CIRCUIT IN A BUILDING  
Patent No.: US 8,136,320 B2

One of the biggest issues with RC Channels is short circuiting of the channels into the framing assembly, by using too long of a screw. **RC Assurance™** Eliminates short circuits.

## RC Assurance™

### Acoustical Assurance

- Enables resilient channel to be installed correctly
- With the correct installation, resilient channel can perform at levels equal to more expensive isolator clip assemblies
- UL-listed and approved
- Cannot be penetrated
- Push-down flange that prevents channel “ride”
- Intersection of the channel and joist is protected
- **RC Assurance™** acts as an impenetrable washer that puts extra space between the resilient channel and the joist
- For the developer, it is assurance that the RC channels are installed properly



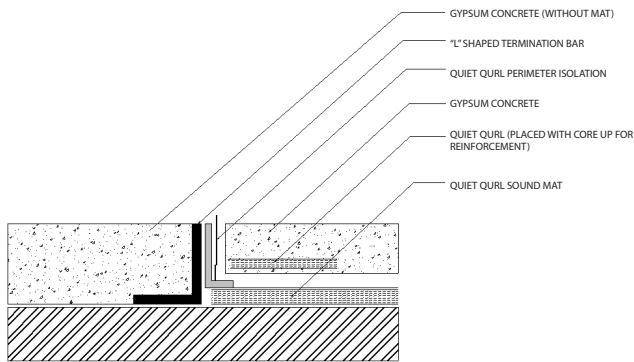


# KEENE IDEAS®

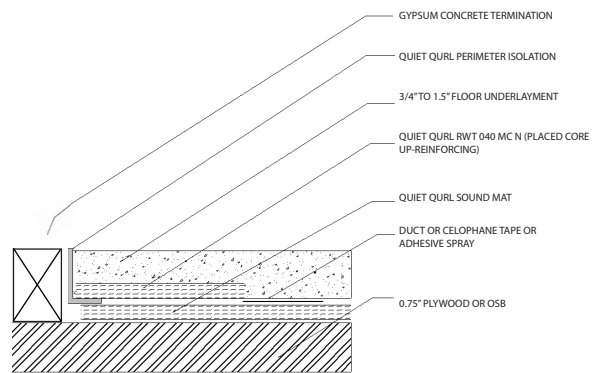
## Transition Details



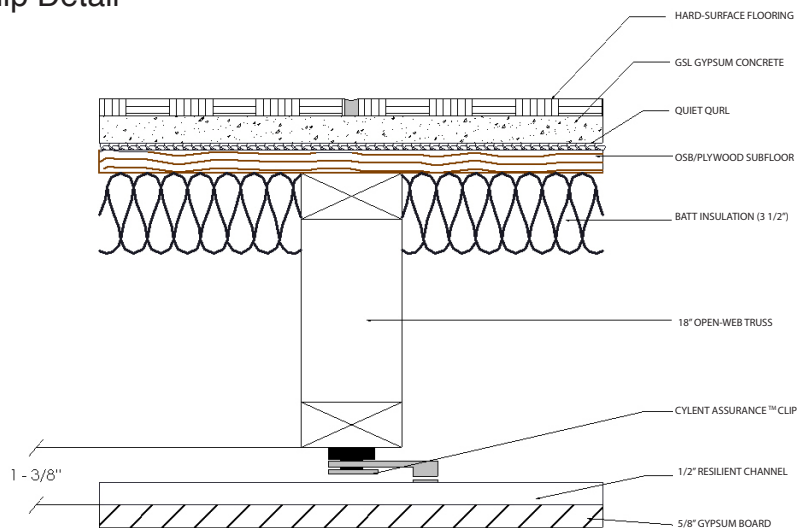
Transition to Gypsum Concrete without mat Quiet Qurl Installation in Hard Surface Areas



Quiet Qurl Doorway and Floor Transition Detail with Reinforcement



Cylent Assurance™ Clip Detail



**For Complete Transition Details please refer to Keene Building Product's KEENE IDEAS information sheets.**

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Info@keenebuilding.com



QUIET QURL is a component in an overall floor/ceiling assembly. Its performance is affected by every other component and the likelihood of achieving code compliance is contingent upon many other trades including framers, plumbers, drywall contractors to name a few. Developers and general contractors are responsible for building properly and testing field performance as soon as possible in order to assure the reliability of the project.

**WARNING:** Laboratory tests are not a guarantee of field performance because of the issues noted above and many other design errors that may occur. Please consult a professional acoustical consultant to assure plans are proper and that the floor/ceiling assembly can perform to expectations.

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