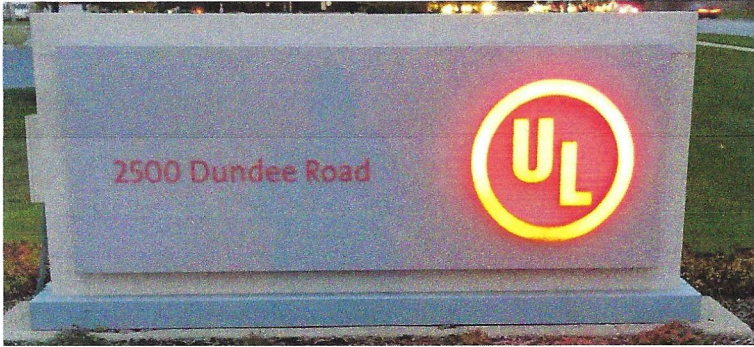


A little fire doesn't hurt...

HushFrame

Raft Connectors



BCD, LLC

Building Component Development

55 Woodrock Rd., Bay 9
E. Weymouth, MA 02189
781-803-3382
sales@HushFrame.com



Licensed Manufacturing Distributor for

HUSHFRAME®

Raft Connectors

VIBRATION ISOLATING STRUCTURAL CONNECTORS

For controlling the movement of sound through walls, floor/ceiling assemblies and associated components of buildings.

Design No. M548
BXUV.M548
Fire-resistance Ratings - ANSI/UL 263



1 Hr. Fire

FRAMING MEMBERS
FIRE RESISTANCE CLASSIFICATION
DESIGN NO. M548
SEE UL FIRE RESISTANCE DIRECTORY
<R39523>

STC 61

ALSO CERTIFIED IN ACCORDANCE WITH
ASTM E90, "STANDARD TEST METHOD FOR LABORATORY
MEASUREMENT OF AIRBORNE SOUND TRANSMISSION LOSS OF
BUILDING PARTITIONS AND ELEMENTS"
BY RIVERBANK ACOUSTICAL LABORATORIES

AND

IIC 56

ALSO CERTIFIED IN ACCORDANCE WITH
ASTM E492, "STANDARD TEST METHOD FOR LABORATORY
MEASUREMENT OF IMPACT SOUND TRANSMISSION
THROUGH FLOOR-CEILING ASSEMBLIES
USING THE TAPPING MACHINE"
BY RIVERBANK ACOUSTICAL LABORATORIES

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. M548

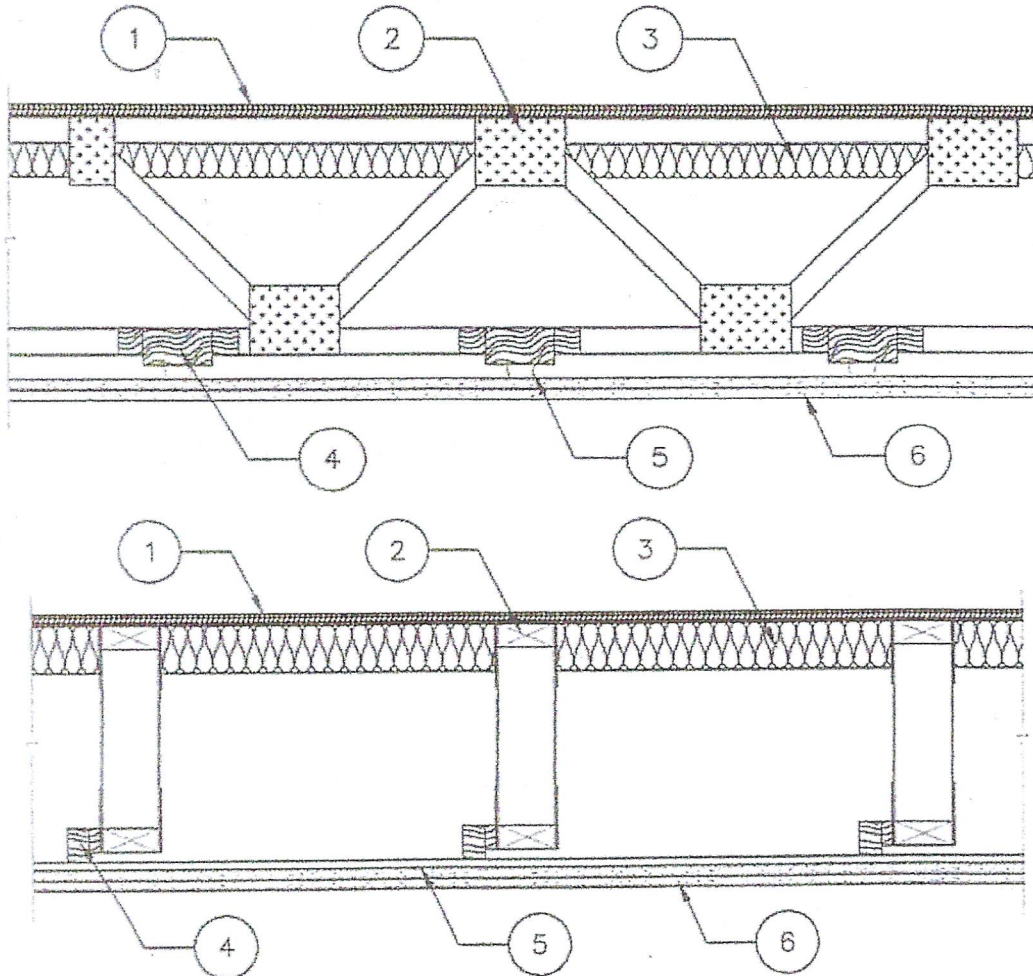
December 01, 2018

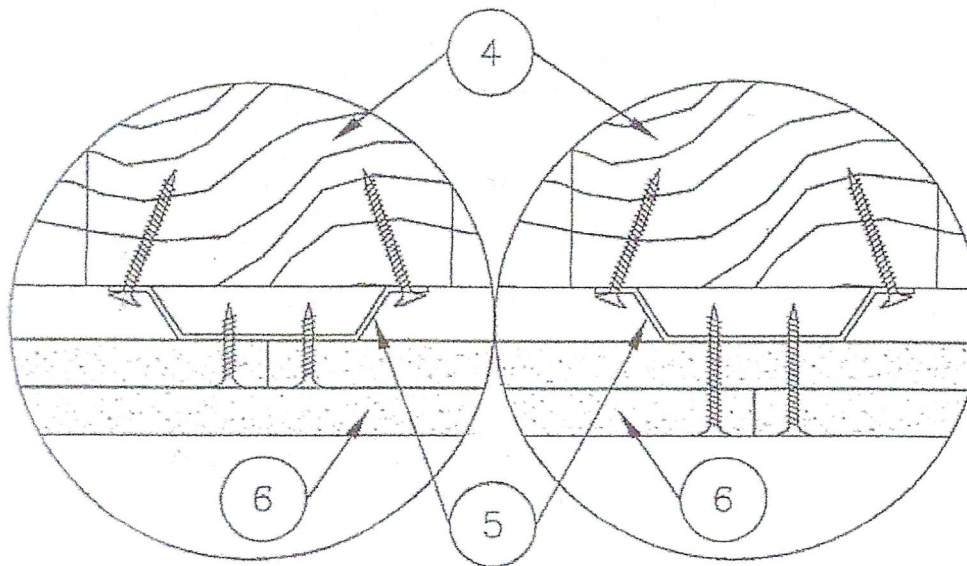
Unrestrained Assembly Rating — 1 Hr

Finish Rating —42 Min

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.





Base Layer
End Joint Detail

Second Layer
End Joint Detail

1. **Subflooring** — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered 48 in. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

2. **Trusses** — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. Truss members secured together with min 0.0356 in. thick galv steel plates. Plates have 3/8 in. long teeth projecting perpendicular to the plane of the plate.

3. **Batts and Blankets*** — Glass fiber insulation, having a minimum density of 0.6 pcf, bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. Min 3-1/2 in. thick with no limit on the overall thickness. Insulation shall be secured against the underside of the subfloor and held in place with 0.09 inch steel insulation rod spaced 12 inch on center.

4. **Framing Members*** — Used to attach furring channels (Item 5) to trusses (Item 2). Rafts secured to every truss, 24 inch on center, and spaced 24 inch on center along each truss and secured with two 1-1/4 inch coarse thread drywall screws. One on each side of the core. Fasteners should not be placed closer than 1/4 inch to the edges of the mounts.

BCD LLC — HushFrame Raft Connectors

5. **Furring Channels** — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to wood structural members. Channels secured with 1-1/4 inch Type S screws at an angle through each inside corner into the rafts. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

6. **Gypsum Board*** — Two layers of nom 5/8 in. thick, 4 ft wide gypsum panels. Gypsum panels installed with long dimension perpendicular to resilient channels. Base layer gypsum board butt end joints offset 72 in., long edge centered between trusses, and secured with 1-1/8 in. long Type S bugle head steel screws spaced 8 inch OC along the butted end joints and 12 inch on center in the field of the panel. Butt end joints secured to resilient channels as shown in end joint detail. Outer layer gypsum board butt end joint offset from the base layer joints by 24 in., long edge joints offset from base layer joints by 24 in., and secured with 2 in. long Type S bugle head steel screws spaced 8 in. OC along the butted end joints and 12 inch on center in the field of the panel. Butted end joints shall be positioned to end on a resilient channel as shown in end joint detail. Fasteners located 3/8 in. from butt edge and 1 in. from side edge. Outer layer shall be finished as described in Item 7.

UNITED STATES GYPSUM CO — Type SCX

7. **Finishing System** — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
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WALLACE CLEMENT SABINE

TEST REPORT

FOR: Alan Case and BCD, LLC
Braintree, MA.

Sound Transmission Loss
RAL™-TL14-324

CONDUCTED: 2014-09-09

Page 1 of 10

ON: Wood I-Joist Floor Ceiling Assembly (Insulated) – HushFrame™ Sound Isolating Joist
Bay Rafts™ with Furring - Two Layers 5/8" - Two Layers 3/4" OSB Unfinished Floor

Total Assembly Depth 17-11/16"
2 x 3/4" OSB sheathing, 14" Truss Joist
3/16" isolation, 3/4" wood furring, 2 x 5/8" gypsum panels

BCD, LLC
2014-09-09

RAL™-TL14-324
Page 8 of 10

TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The precision of the TL test data is within the limits set by the ASTM Standard E90-09.

<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>
100	34	0.56		800	63	0.22	
125	41	0.83	4	1000	66	0.17	
160	45	0.34	3	1250	65	0.19	
200	47	0.48	4	1600	68	0.12	
250	48	0.46	6	2000	69	0.10	
315	52	0.43	5	2500	74	0.09	
400	55	0.24	5	3150	83	0.08	
500	58	0.31	3	4000	86	0.08	
630	61	0.30	1	5000	89	0.28	

STC=61

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TEST REPORT

FOR: Alan Case and BCD,LLC
Braintree, MA.

Impact Sound Transmission
RAL™-IN14-024

CONDUCTED: 2014-09-09

Page 1 of 10

ON: Wood I-Joist Floor Ceiling Assembly (Insulated) – HushFrame™ Sound Isolating Joist
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3/16" isolation, 3/4" wood furring, 2 x 5/8" gypsum panels

BCD,LLC
2014-09-09

RAL™-IN14-024
Page 8 of 10

TEST RESULTS

Sound pressure levels at 1/3 octave intervals, normalized to 10 square meters, are given in tabular form. The impact insulation class, IIC, was computed in accordance with ASTM E989-06 (2012) and ASTM E492-09.

<u>FREQ.</u>	<u>Ln</u>	<u>C.L.</u>	<u>DEV</u>	<u>FREQ.</u>	<u>Ln</u>	<u>C.L.</u>	<u>DEV</u>
100	61	0.46	5	800	53	0.23	1
125	60	0.56	4	1000	49	0.24	
160	59	0.45	3	1250	49	0.33	1
200	60	0.32	4	1600	42	0.41	
250	57	0.36	1	2000	38	0.31	
315	56	0.36		2500	35	0.21	
400	55	0.29		3150	24	0.37	
500	57	0.33	3	4000	16	0.79	
630	55	0.27	2	5000	7	2.68	

IIC=56

