

SOUND

ACOUSTICAL ASSEMBLIES
REFERENCE GUIDE

MANAGEMENT



Johns Manville
A Berkshire Hathaway Company

AS AN INDUSTRY LEADER

in insulation solutions, Johns Manville takes great pride in developing products with strong sound-attenuating properties. *We achieve this by paying strict attention to third-party research and meeting industry standards.* Our products also undergo rigorous testing in our own certified laboratories to ensure that we deliver the solutions our customers have depended on for years.

Refer to this easy-to-use guide to determine the most appropriate assemblies to meet your Sound Transmission Class (STC) requirements. With the widest offerings on the market and a customer service staff ready to offer full support, we are confident you'll find the appropriate sound-control solution you need for your project.

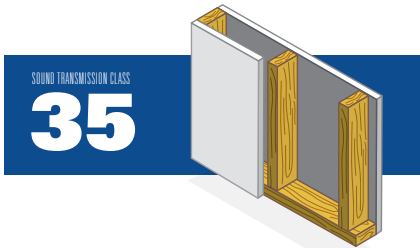
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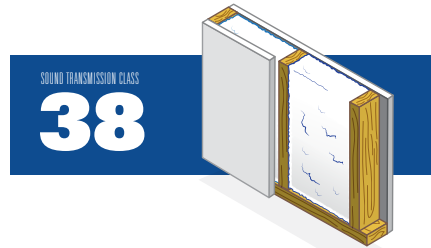
FIBERGLASS

Fiberglass is one of North America's most common insulation materials. JM Formaldehyde-free™ thermal and acoustical fiberglass insulation is comprised of long, resilient glass fibers bonded with a thermosetting resin.

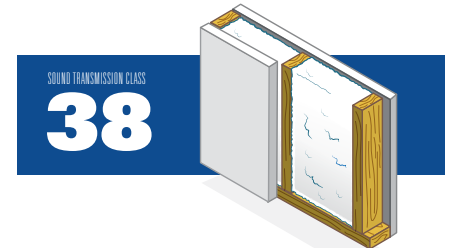
Single Wood Studs | 2" × 4" (38 mm × 89 mm)



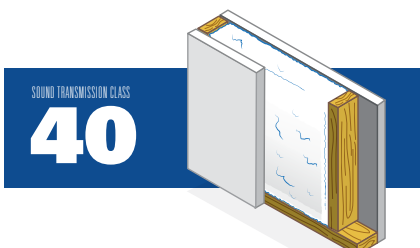
STC	35
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	None
Resilient Channels	No



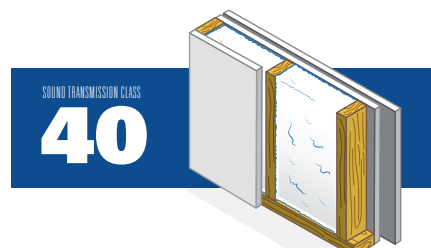
STC	38
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	No



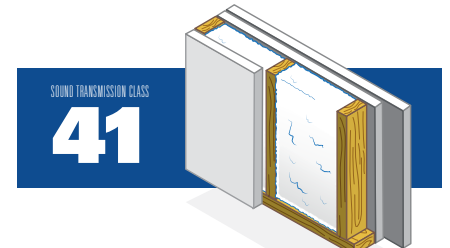
STC	38
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	⅝" (16 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	No



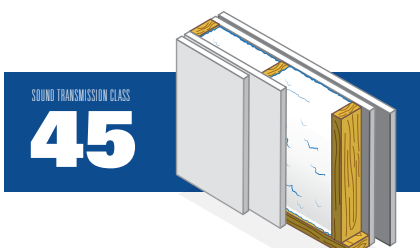
STC	40
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	⅝" (16 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	No



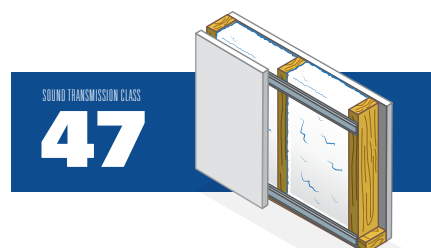
STC	40
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	No



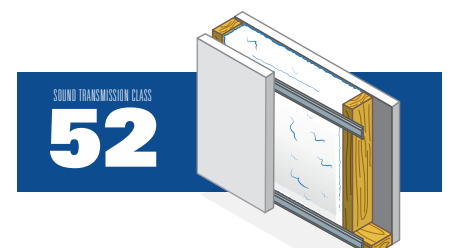
STC	41
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	⅝" (16 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	No



STC	45
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	No

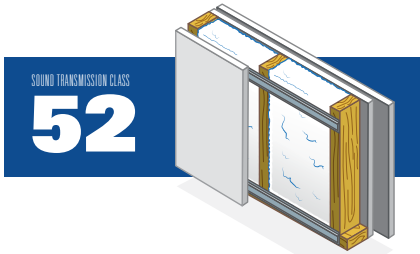


STC	47
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)

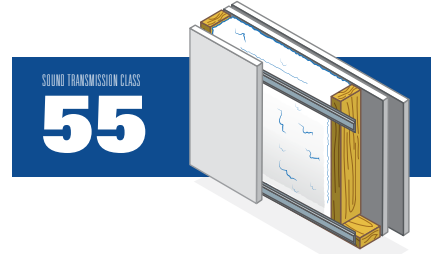


STC	52
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	⅝" (16 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)

Single Wood Studs | 2" × 4" (38 mm × 89 mm)



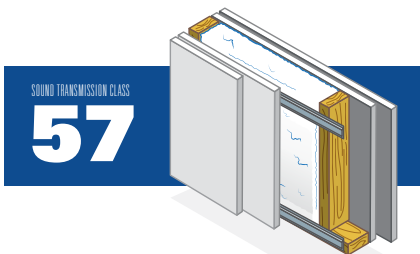
STC	52
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3¾" (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)



STC	55
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3¾" (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)



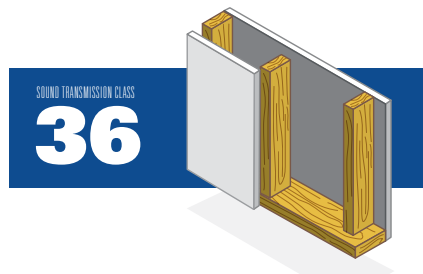
STC	55
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3¾" (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)



STC	57
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	3¾" (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)

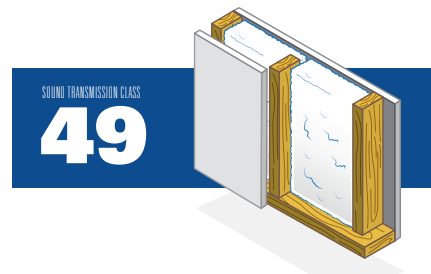
Staggered Wood Studs | 2" x 4" (38 mm x 89 mm)

No Resilient Channels



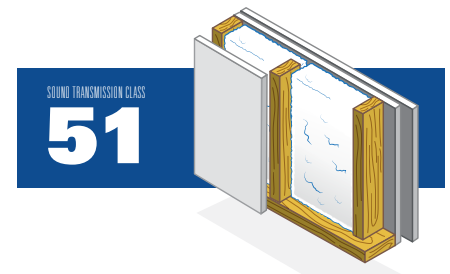
SOUND TRANSMISSION CLASS
36

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	None



SOUND TRANSMISSION CLASS
49

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts



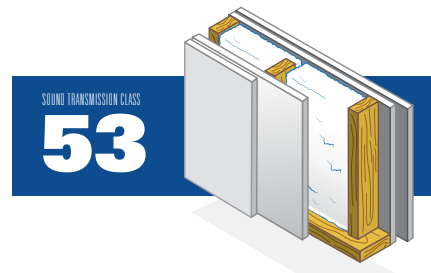
SOUND TRANSMISSION CLASS
51

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3⅝" (92 mm) R-12 batts



SOUND TRANSMISSION CLASS
52

Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts



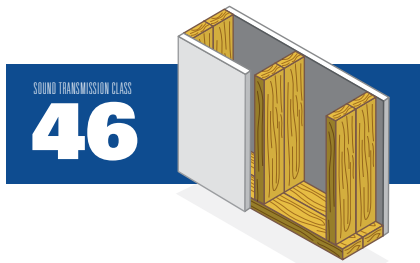
SOUND TRANSMISSION CLASS
53

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	3⅝" (92 mm) R-12 batts

Double Wood Studs

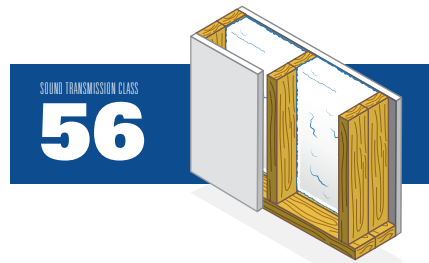
2" x 4" + 2" x 4" (38 mm x 89 mm + 38 mm x 89 mm)

No Resilient Channels



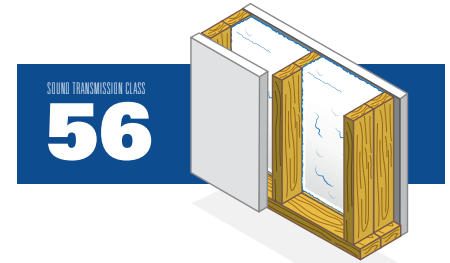
SOUND TRANSMISSION CLASS
46

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	None



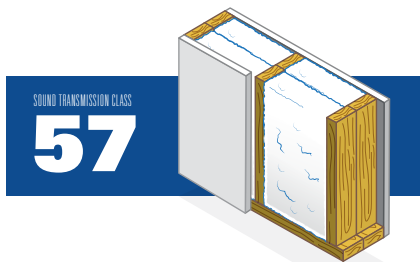
SOUND TRANSMISSION CLASS
56

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts



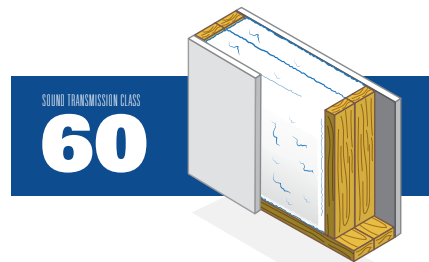
SOUND TRANSMISSION CLASS
56

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	⅝" (16 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3⅝" (92 mm) R-12 batts



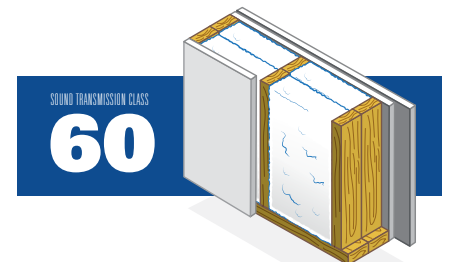
SOUND TRANSMISSION CLASS
57

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	2 x 3⅝" (92 mm) R-12 batts



SOUND TRANSMISSION CLASS
60

Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	2 x 3⅝" (92 mm) R-12 batts



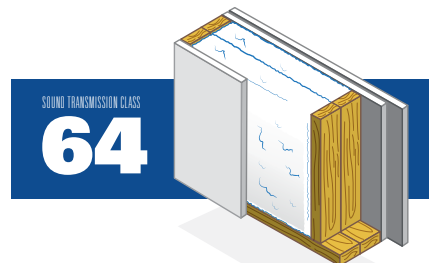
SOUND TRANSMISSION CLASS
60

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	2 x 3⅝" (92 mm) R-12 batts



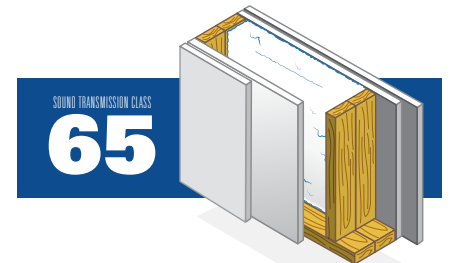
SOUND TRANSMISSION CLASS
63

Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	2 x 3⅝" (92 mm) R-12 batts



SOUND TRANSMISSION CLASS
64

Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	2 x 3⅝" (92 mm) R-12 batts



SOUND TRANSMISSION CLASS
65

Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	2 x 3⅝" (92 mm) R-12 batts

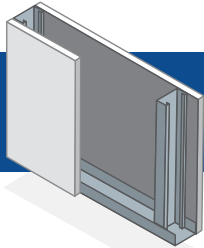
Steel Studs | 2½" (64 mm)

25-Gauge Steel

24" (610 mm) o.c. Stud Spacing

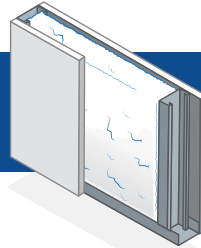
No Resilient Channels

SOUND TRANSMISSION CLASS
36



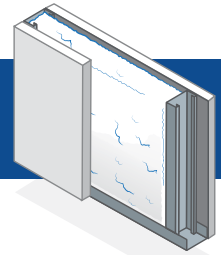
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	None

SOUND TRANSMISSION CLASS
45



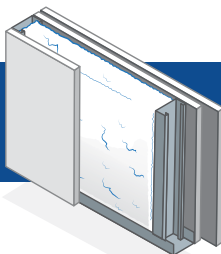
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	2¾" (70 mm) batts

SOUND TRANSMISSION CLASS
47



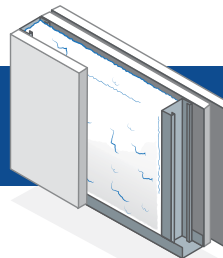
Gypsum Thickness	5/8" (16 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	2¾" (70 mm) batts

SOUND TRANSMISSION CLASS
50



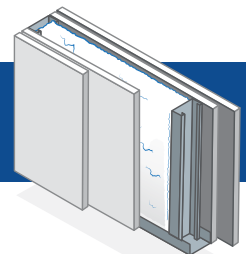
Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	2¾" (70 mm) batts

SOUND TRANSMISSION CLASS
52



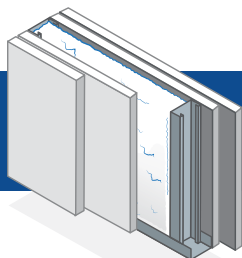
Gypsum Thickness	5/8" (16 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	2¾" (70 mm) batts

SOUND TRANSMISSION CLASS
54



Gypsum Thickness	½" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	2¾" (70 mm) batts

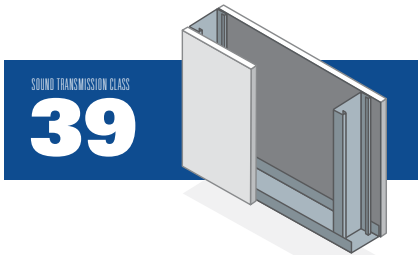
SOUND TRANSMISSION CLASS
57



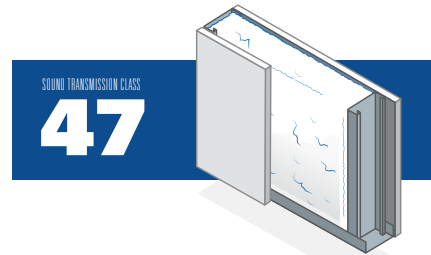
Gypsum Thickness	5/8" (16 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	2¾" (70 mm) batts

Steel Studs | 3⁵/₈" (92 mm)

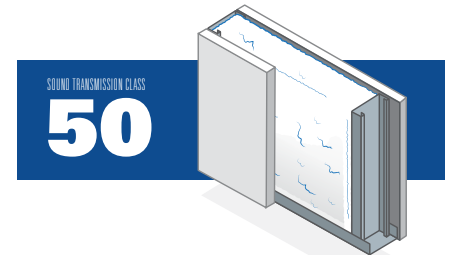
25-Gauge Steel | No Resilient Channels



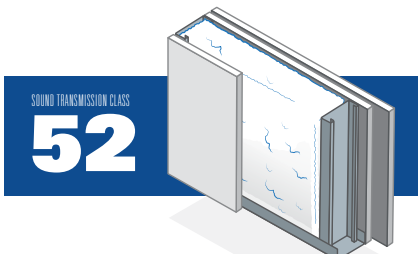
STC	39
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	1/2" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	None



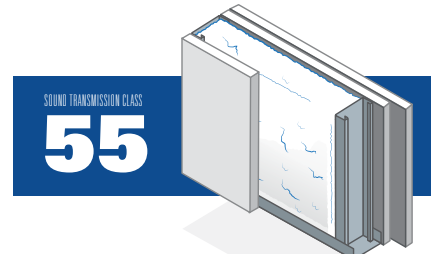
STC	47
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	1/2" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts



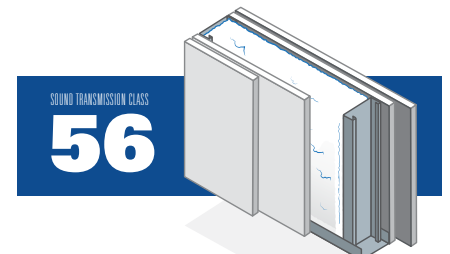
STC	50
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	5/8" (16 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts



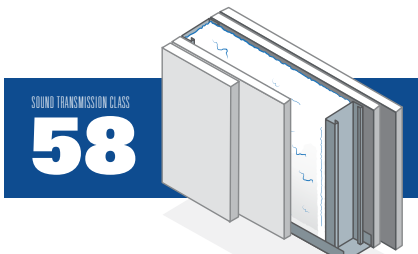
STC	52
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	1/2" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts



STC	55
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	5/8" (16 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts



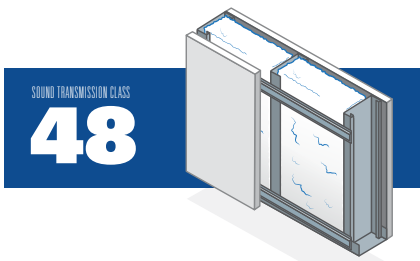
STC	56
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	5/8" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts



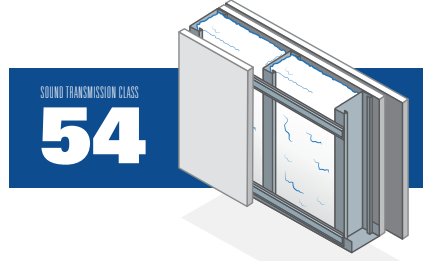
STC	58
Stud Spacing	24" (610 mm) o.c.
Gypsum Thickness	5/8" (16 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts

Steel Studs | 3⁵/₈" (92 mm)

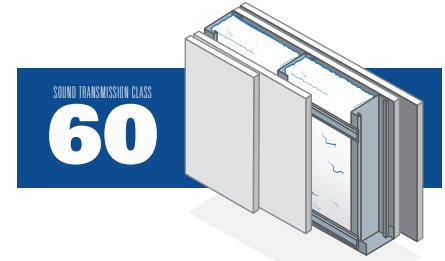
20-Gauge Steel



STC	48
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	1/2" (13 mm)
Gypsum Layers	Side A: 1 Side B: 1
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)



STC	54
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	1/2" (13 mm)
Gypsum Layers	Side A: 1 Side B: 2
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)



STC	60
Stud Spacing	16" (406 mm) o.c.
Gypsum Thickness	1/2" (13 mm)
Gypsum Layers	Side A: 2 Side B: 2
Fiberglass Thickness	3 ⁵ / ₈ " (92 mm) R-12 batts
Resilient Channels	24" (610 mm) o.c. (vertical)

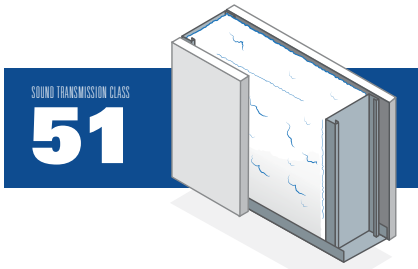
Steel Studs | 6" (152 mm)

25-Gauge Steel

24" (610 mm) o.c. Stud Spacing

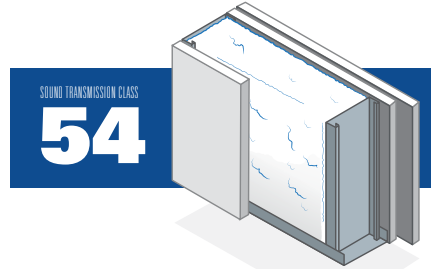
5/8" (16 mm) thick Gypsum Board

6" (152 mm) thick R-20 Fiberglass Batts



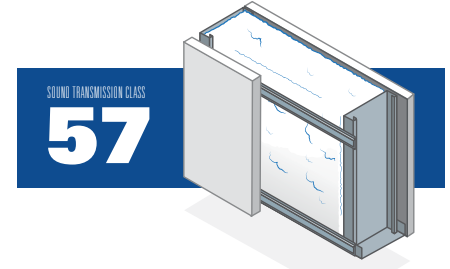
SOUND TRANSMISSION CLASS
51

Gypsum Layers	Side A: 1
	Side B: 1
Resilient Channels	No



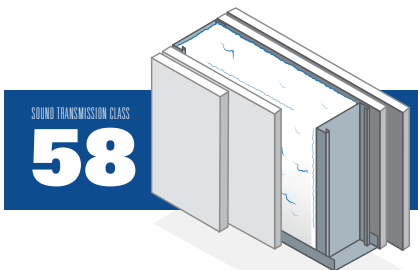
SOUND TRANSMISSION CLASS
54

Gypsum Layers	Side A: 1
	Side B: 2
Resilient Channels	No



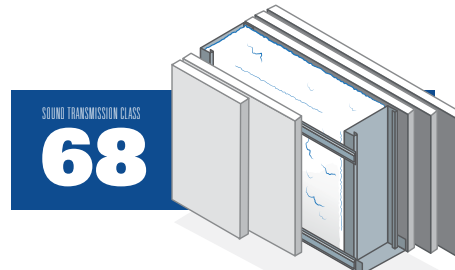
SOUND TRANSMISSION CLASS
57

Gypsum Layers	Side A: 1
	Side B: 1
Resilient Channels	24" (610 mm) o.c. (vertical)



SOUND TRANSMISSION CLASS
58

Gypsum Layers	Side A: 2
	Side B: 2
Resilient Channels	No



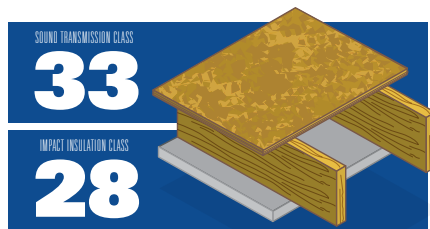
SOUND TRANSMISSION CLASS
68

Gypsum Layers	Side A: 2
	Side B: 3
Resilient Channels	24" (610 MM) o.c. (vertical)

Floor/Ceiling Assemblies

16" (406 mm) o.c. Joist Spacing

5/8" (16 mm) Gypsum Board Ceiling

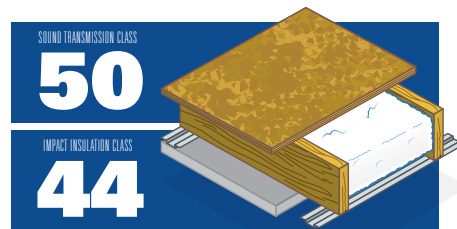


Wood Joist 2" × 10" (38 mm × 235 mm)

Floor Topping 1⁹/₃₂" OSB subfloor

Fiberglass Thickness None

Resilient Channels No

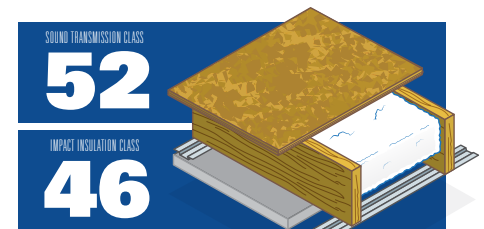


Wood Joist 2" × 8" (38 mm × 184 mm)

Floor Topping 1⁹/₃₂" OSB subfloor

Fiberglass Thickness 6" (152 mm) R-20 batts

Resilient Channels 24" (610 mm) o.c. (vertical)

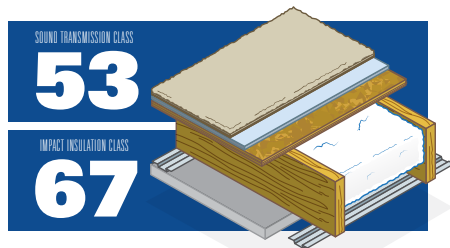


Wood Joist 2" × 10" (38 mm × 235 mm)

Floor Topping 1⁹/₃₂" OSB subfloor

Fiberglass Thickness 6" (152 mm) R-20 batts

Resilient Channels 24" (610 mm) o.c. (vertical)

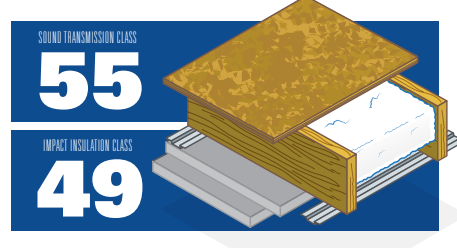


Wood Joist 2" × 10" (38 mm × 235 mm)

Floor Topping 1⁹/₃₂" OSB subfloor +
pad + carpet

Fiberglass Thickness 6" (152 mm) R-20 batts

Resilient Channels 24" (610 mm) o.c. (vertical)

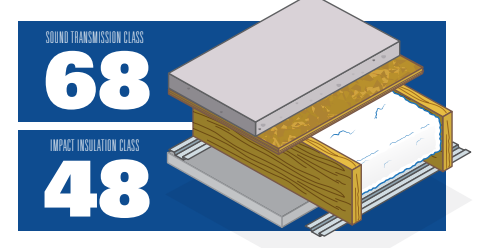


Wood Joist 2" × 10" (38 mm × 235 mm)

Floor Topping 1⁹/₃₂" OSB subfloor

Fiberglass Thickness 6" (152 mm) R-20 batts

Resilient Channels 24" (610 mm) o.c. (vertical)



Wood Joist 2" × 10" (38 mm × 235 mm)

Floor Topping 1⁹/₃₂" OSB subfloor +
1³/₈" concrete

Fiberglass Thickness 6" (152 mm) R-20 batts

Resilient Channels 24" (610 mm) o.c. (vertical)

SPRAY FOAM

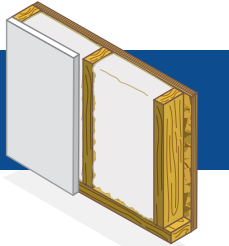
Johns Manville spray foam delivers high yield, superior performance and exceptional sprayability, making it an ideal choice for air-sealing and insulating energy-efficient buildings.

Single Wood Studs

Single interior layer 1/2" (13 mm) Gypsum Board

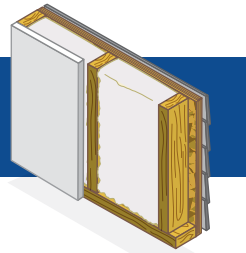
19/32" (14 mm) exterior OSB Sheathing

SOUND TRANSMISSION CLASS
34



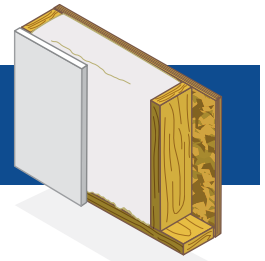
Stud	2" x 4" (38 mm x 89 mm)
Stud Spacing	16" (406 mm) o.c.
Cavity Insulation	Closed-cell SPF
Cladding	N.A.

SOUND TRANSMISSION CLASS
36



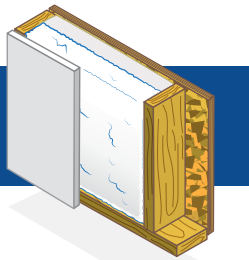
Stud	2" x 4" (38 mm x 89 mm)
Stud Spacing	16" (406 mm) o.c.
Cavity Insulation	Closed-cell SPF
Cladding	Fiber cement lap siding

SOUND TRANSMISSION CLASS
37



Stud	2" x 6" (38 mm x 140 mm)
Stud Spacing	24" (610 mm) o.c.
Cavity Insulation	Closed-cell SPF
Cladding	N.A.

SOUND TRANSMISSION CLASS
44

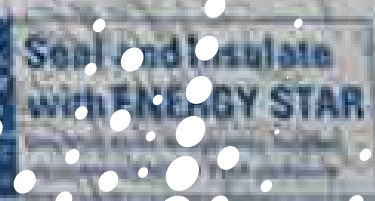


Stud	2" x 6" (38 mm x 140 mm)
Stud Spacing	24" (610 mm) o.c.
Cavity Insulation	Half closed-cell SPF & half R-12 fiberglass batt
Cladding	N.A.



SHEATHING CONTINUOUS INSULATION

Rigid polyisocyanurate foam sheathing insulation for use in commercial and residential construction where continuous insulation and/or high thermal efficiency is required.



100% Polyisocyanurate
 2019 GreenGuard Gold
 2019 GreenGuard Air Purification

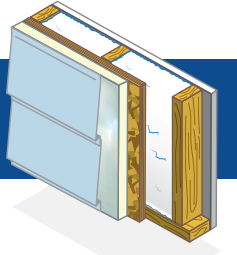
10'

Exterior Residential Walls

2" x 4" (38 mm x 89 mm) Wood Studs	16" (406 mm) o.c. Stud Spacing	Single interior layer 1/2" (13 mm) Gypsum Board
3 5/8" (92 mm) R-13 Fiberglass Batts	7/16" (11 mm) OSB Exterior Sheathing	AP™ Foil-Faced Foam Sheathing Continuous Insulation

SOUND TRANSMISSION CLASS

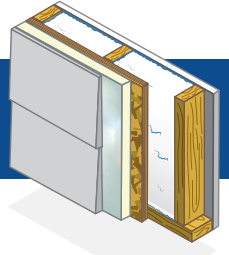
34



Resilient Channels	No
Continuous Insulation	R-5 AP Foil
Cladding	Vinyl lap siding

SOUND TRANSMISSION CLASS

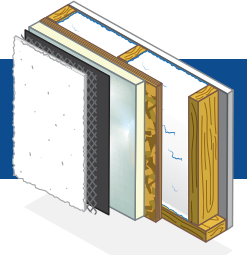
37



Resilient Channels	No
Continuous Insulation	R-5 AP Foil
Cladding	Fiber cement lap siding

SOUND TRANSMISSION CLASS

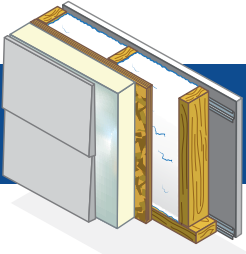
45



Resilient Channels	No
Continuous Insulation	R-5 AP Foil
Cladding	7/8" stucco

SOUND TRANSMISSION CLASS

45



Resilient Channels	24" (610 mm) o.c. (vertical)
Continuous Insulation	R-13 AP Foil
Cladding	Vinyl lap siding

SOUND TRANSMISSION CLASS

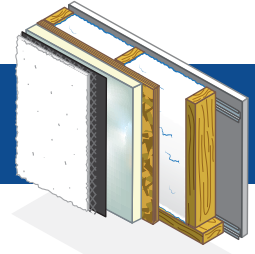
47



Resilient Channels	24" (610 mm) o.c. (vertical)
Continuous Insulation	R-13 AP Foil
Cladding	Fiber cement lap siding

SOUND TRANSMISSION CLASS

55



Resilient Channels	24" (610 mm) o.c. (vertical)
Continuous Insulation	R-5 AP Foil
Cladding	7/8" stucco



Visit our website at www.JM.com or call 800 654 3103

Building Insulation Division P.O. Box 5108 | Denver, CO 80217-5108

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