

Quiet Noise Door Systems *A Sound Choice*



Sound Facts

The Noise Problem

Noise can have significant affects on people's daily functions. Facilities need to shield common workspaces and office employees from the distractions of resident noise emanating from HVAC units and other heavy equipment rooms. Schools have to significantly reduce the sounds coming from band rooms and hallways. Virtually all types of buildings need rooms equipped for private conversation. Plus, the need for absolute confidentiality is increasing because of expanding national security operations.

The solution to unwanted noise is reducing levels of sound produced. There are two methods of reducing noise levels but they mainly rely on two basic principles:

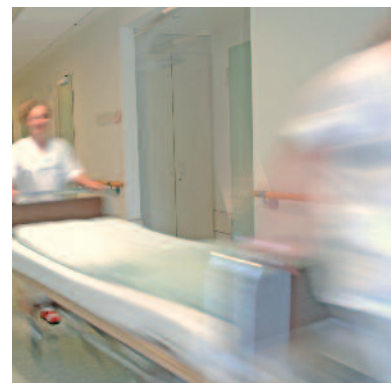
Sound Absorption - The process of removing sound energy from within a room. This is accomplished by using materials to soak up sound.

Sound Insulation - The process of blocking the passage of sound waves through the use of distance and intervening objects in the sound path.

Both sound absorption and sound insulation are used to control the broadcast of noise within and through buildings.

Evaluating Noise

The solution to a noise problem begins with evaluating the noise impact. Sound can be described as vibrations in the air moving in waves. The rate of sound vibrations measured in cycles per second is called frequency (Hertz). Sound pressure levels are measured in decibels (dB). See chart below.



Sound Reduction Ratings

Transmission Loss (TL)

A door's ability to reduce noise is called its transmission loss (TL) effectiveness. TL is a value given in decibels, which is determined by measuring sound pressure levels at a certain frequency in the source and receiving rooms. The adjusted difference between the two levels is the TL of the door. The higher the TL, the better the result.

Sound Transmission Class (STC)

TL measurements for a door are taken across a range of frequencies, which makes it difficult to compare the effectiveness of different doors. Sound transmission class (STC) ratings solve that problem by giving a single value to acoustical performance for a door. STC is determined by a weighted average of TL values taken over 16 frequencies, which are fitted to a curve in a method defined by the ASTM E413 Classification Standard for Rating Sound Insulation. The higher the STC value, the better the rating and the better the performance.

Examples of Sound Pressure Levels (Loudness):

Sound Level dB		
0	Threshold of hearing	Inaudible
20	Very rural environment	Extremely quiet
30	Quiet home	Faint
40	Quiet office	Distant sounds audible
50	Background conversation	Moderate
60	Radio/Television in home	Moderate
70	Highway noise	Moderately loud
80	Background factory noise	Loud
90	Noisy factory	Very loud
105	Elevated train	Deafening
120	Bass drum at 3'	Physical pain
130	Jet aircraft at 100'	Physical pain

Sound Solutions

CURRIES Quiet Noise Doors

Using the latest revolutionary technology, patented designs and utilizing light weight sound absorbing techniques, CURRIES engineers have developed acoustical assemblies to solve the noise solution for any facility.

High STC ratings are typically needed to create sound resistant rooms for the government/military, offices, school band rooms and to isolate performance halls from exterior noise. Relatively lower STC ratings will usually suffice for less demanding applications, such as solving a noise problem in a hotel or office building. Quiet Noise covers the low to high STC range allowing them to be the solution for almost any application.

Sound Transmission Class Table

Door Type	STC	Performance	Description
Typical Hollow Metal Door	20-25	Minimal	Speech clearly audible
	25-30	Average	Normal speech understood
CURRIES Quiet Noise Doors	30-35	Fair	Loud speech understood fairly well
	35-40	Good	Loud speech heard but hardly intelligible
	40-50	Very Good	Loud speech just detectable
	50-54	Excellent	Loud speech barely audible



Quiet Noise Advantages

CURRIES Quiet Noise Doors have many advantages over other sound door products in the market.

- Wide range of operable STC ratings from 32 to 54
- 4 to 6 week standard leadtimes
- Competitive pricing including door, frame and all sealing hardware
- STC 50-54 door assemblies are 30% lighter than most sound doors in the market allowing standard weight hinges to be used
- All door cores are lead and asbestos free
- All doors are 1-3/4" thick instead of 2-1/4" or larger like other sound doors in the market
- Cam-lift hinges not required but optional
- Door assemblies can be pre-wired with Electrolynx snap-together connectors to make adding or upgrading electrified openings easy
- Most door assemblies are UL or WH fire rated
- Quiet Noise Doors can help achieve LEED requirements for sound and recycled content
- Thresholds are ADA compliant

Product Features

Door Configurations

- Single flush doors available from STC 32 to STC 54
- Single factory glazed doors available from STC 33 to STC 48
- Flush pairs available up to STC 49
- Pairs with glazing available from STC 33 to STC 44
- All doors tested in fully operable conditions
- Seals, thresholds and door bottoms (as required) will be drop shipped to designated address
- UL or WH fire labeling up to 3 hours (varies per STC rating)

Frame Configurations

- 16 or 14 gauge cold rolled or galvaneal steel
- 4-1/8" through 14" depths
- Continuously welded corners

Hardware Preps

Locks:

- 161 cylindrical locks (backset min. varies per STC rating)
- 86 edge mortise locks with escutcheon or sectional trims
- Military/Government spin dial locks (STC 50 max.)
- Rim panic and surface mounted vertical rod exit devices
- Surface and flush bolts on inactive leaves (STC 33-49 pairs)

Hinges:

- Standard 4.5 x .134
- Heavyweight and 5" optional
- Cam-lift hinges optional

Sound Product Charts

Single Hollow Metal Doors Flush

STC Rating Operable	Max. Fire Rating	Hinges	Locks	Seal Set
54	No	Butt	Cylindrical	1
53	No	Butt	Cylindrical / Mortise	1
52	3 Hour	Butt	Cylindrical / Mortise	1
51	3 Hour	Butt	Cyl / Rim / Mort	6
50	3 Hour	Butt	Cyl / Rim / Mort / Military	6
49	3 Hour	Butt	Mort / Rim / Cyl / Military	6
48	3 Hour	Butt	Mort / Rim / Cyl / Military	6
47	3 Hour	Butt	Mort / Rim / Cyl / Military	6
46	90 Minute	Butt	Mortise / Cylindrical	10
45	90 Minute	Butt	Cyl / Rim / Mort	6
44	90 Minute	Butt	Cyl / Rim / Mort	6
43	90 Minute	Butt	Cyl / Rim / Mort	2
	3 Hour	Butt	Mortise / Cylindrical	6
42	90 Minute	Butt	Cyl / Rim / Mort	6
41-39	90 Minute	Butt	Cylindrical / Mortise	2
38-32	3 Hour	Butt	Cylindrical / Mortise	7

Seal Set Code

Set 1

Zero Seals: 770, 119W, 118W, 367, 564 Saddle

Set 2

Pemko Seals: 319CN, 2005 Threshold

Set 3

Pemko Seals: S88, S773, 303AS, 2005 Threshold

Set 4

Pemko Seals: S88, S44, S773, S771, 303AS, ACP112, 2005 Threshold

Set 5

Pemko Seals: S88 (2), S773, 303AS, 2005 Threshold

Set 6

Pemko Seals: S88, S44, S773, S771, ACP112, 2005 Threshold

Set 7

Pemko Seals: 297AS, 2005 Threshold

Set 9

Zero Seals: 139A, 8145S, 564A, 365A

Set 10

Zero Seals: 485, 119W, 367, 564 Threshold

Set 13

Pemko Seals: S88, S44, S773, 303AS, ACP112, 2005 Threshold

Single Hollow Metal Doors Glazed

STC Rating Operable	Max. Fire Rating	Hinges	Locks	Glazing	Max. Visible Area	Seal Set
48	3 Hour	Butt	Cylindrical	Yes	100 sq in	6
47	3 Hour	Butt	Mortise / Cylindrical	Yes	100 sq in	6
46	3 Hour	Butt	Cyl / Rim / Mort	Yes	100 sq in	6
45	90 Minute	Butt	Cylindrical	Yes	288 sq in	6
44	90 Minute	Butt	Mortise / Cylindrical	Yes	288 sq in	6
43	90 Minute	Butt	Cyl / Rim / Mort	Yes	288 sq in	6
42	90 Minute	Butt	Cyl / Rim / Mort	Yes	288 sq in	6
41	90 Minute	Butt	Cyl / Rim / Mort	Yes	288 sq in	6
	90 Minute	Butt	Cylindrical	Yes	720 sq in	6
40	90 Minute	Butt	Mortise / Cylindrical	Yes	720 sq in	6
39	90 Minute	Butt	Cyl / Rim / Mort	Yes	720 sq in	6
38	90 Minute	Butt	Cyl / Rim / Mort	Yes	720 sq in	6
37	90 Minute	Butt	Cyl / Rim / Mort	Yes	720 sq in	6
36	90 Minute	Butt	Cyl / Rim / Mort	Yes	720 sq in	6
33	90 Minute	Butt	Cyl / Rim / Mort	Yes	720 sq in	6

Sound Product Charts

Single Embossed Panel Steel Doors

STC Rating Operable	Max. Fire Rating	Hinges	Locks	Door Design	Seal Set
47	45 Minute	Butt	Cylindrical	6 Panel	6
46	45 Minute	Butt	Cylindrical / Mortise	6 Panel	6
	45 Minute	Butt	Cylindrical	2 Panel HD	6
45	45 Minute	Butt	Cylindrical / Mortise	2 Panel HD	6
40-45	45 Minute	Butt	Cyl / Rim / Mort	6 Panel	6
40-44	45 Minute	Butt	Cyl / Rim / Mort	2 Panel HD	6

Seal Set Code

Set 1
Zero Seals: 770, 119W, 118W, 367, 564 Saddle

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Pemko Seals: S88, S773, 303AS, 2005 Threshold

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Zero Seals: 139A, 8145S, 564A, 365A

Set 10
Zero Seals: 485, 119W, 367, 564 Threshold

Set 13
Pemko Seals: S88, S44, S773, 303AS, ACP112, 2005 Threshold

Pairs of Hollow Metal Doors Flush

STC Rating Operable	Max. Fire Rating	Hinges	Locks	Glazing	Seal Set
49	3 Hour	Butt	Cylindrical	No	4
49-48	3 Hour	Butt	SVR	No	13
48	3 Hour	Butt	Cylindrical / Mort	No	4
47	3 Hour	Butt	SVR / Cylindrical	No	3
47-46	3 Hour	Butt	SVR	No	5
46	3 Hour	Butt	Cylindrical / Mort	No	3
45	90 Minute	Butt	SVR / Cylindrical	No	13
44-42	90 Minute	Butt	SVR / Cylindrical / Mort	No	4
41-32 *	90 Minute	Butt	Cyl / Mort / Flush Bolt	No	9

* Required 1/4" Undercut

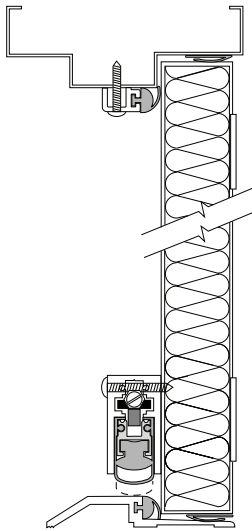
Pairs of Hollow Metal Doors Glazed

STC Rating Operable	Max. Fire Rating	Hinges	Locks	Glazing	Max. Visible Area	Seal Set
44	No	Butt	Cylindrical	Yes	100 sq in	4
	No	Butt	SVR	Yes	100 sq in	13
43	No	Butt	Cylindrical/Mortise	Yes	100 sq in	4
	No	Butt	Cylindrical	Yes	288 sq in	4
41	No	Butt	SVR	Yes	288 sq in	13
	No	Butt	Cylindrical/Mortise	Yes	288 sq in	4
40	90 Minute	Butt	Cylindrical	Yes	100 sq in	4
	90 Minute	Butt	SVR	Yes	100 sq in	13
39	90 Minute	Butt	Cylindrical/Mortise	Yes	100 sq in	4
38	No	Butt	Cylindrical	Yes	720 sq in	4
	No	Butt	SVR	Yes	720 sq in	4
37	90 Minute	Butt	Cylindrical	Yes	288 sq in	4
	90 Minute	Butt	SVR	Yes	288 sq in	13
36	No	Butt	Cylindrical/Mortise	Yes	720 sq in	4
	90 Minute	Butt	Cylindrical/Mortise	Yes	288 sq in	4
34	90 Minute	Butt	Cylindrical	Yes	720 sq in	4
	90 Minute	Butt	SVR	Yes	720 sq in	13
33	90 Minute	Butt	Cylindrical/Mortise	Yes	720 sq in	4

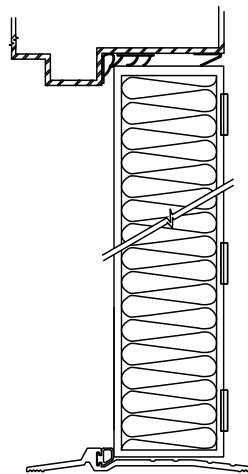
Testing and Certification

- Quiet Noise Doors are tested in accordance with:
- ASTM E90-04 and E90-09, Standard test method for laboratory measurement of airborne sound transmission loss of building partitions
- ASTM E413-04, Classification for rating sound insulation
- ASTM E1332-90, (Re-approved 2003) Standard classification for determination of outdoor indoor transmission class
- ASTM E2235-04, Standard test method for determination of decay rates for use in sound insulation test methods

Example of STC 52 Door System



Example of STC 48 Door System for Pairs (Seal Sets Vary Per Rating)



CURRIES

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