ALLEGION

Republic

Sound transmission control

Door and frame systems

Overview

Acoustical performance of building products, components and systems is an important consideration for engineers, specifiers and building owners. This is especially true in highly populated cities, areas around highways, railroads, airports and high density residential zones. The demand for efficient noise reducing building in these areas are rising constantly.

Using the latest sound absorbing techniques and materials, Republic's engineering professionals have developed a superior sound transmission class (STC) rated assembly consisting of a noticeably lighter weight door (approximately 25% less than current market products) along with standard "rabbeted" hollow metal frames. These assemblies utilize 1 3/4" (proprietary) sound-core doors, standard hollow metal frames and a low profile sealing system that is aesthetically pleasing to the eye and easier to install.

Features and benefits

- Single flush doors are available up to STC 52
- Standard hollow metal frames (min. 5 3/4" frame depth)
- Frames available as KD/STC 40 and 42
- Frames provided as welded/ STC 43-52
- Sound resistant spectrum (proprietary construction)
- STC 40-47 – furnished with perimeter seals, gaskets and threshold
- STC 48-52 – furnishes with perimeter seals, gasketing, surface mounted auto door bottom, threshold and 5" Cam-Lift hinges
- Pairs available as STC 47
- All doors tested in fully operable conditions

Republic's acoustical performance

Republic's sound transmission control (STC) ratings demonstrate how well a door and frame system reduces airborne sound. STC ratings are calculated by taking the transmission loss tested at different frequencies and comparing that performance to the STC standard contour reference. Transmission loss is a measurement of the decibels (dB) volume difference tested on each side of the door and frame system. The chart below illustrates door performance characteristics tested to AST M E90 and E413 standards. The line graph shows a sample of how the sound transmission loss testing of our Republic STC door and frame systems align with the various STC ratings established as a industry reference.

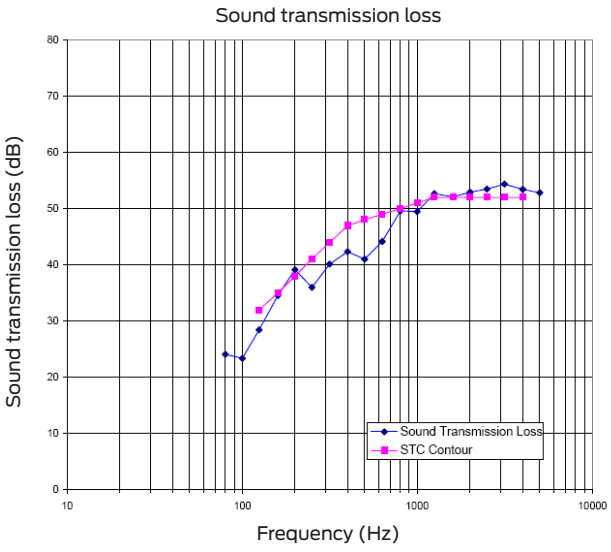
Door test performance characteristics per ASTM E90 and E413

Transmission loss in dB/Hertz

STC	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
38	26	23	27	33	36	35	34	34	39	41	42	44	45	47	45	45	45	45
42	32	28	32	36	35	37	36	38	38	40	42	43	44	45	49	54	56	54
46*	22	28	34	39	40	41	39	47	49	49	49	49	48	48	47	46	45	49
48	24	29	34	40	37	41	43	42	45	50	50	53	53	54	53	54	55	54
50	19	30	36	40	42	45	46	42	49	50	50	51	53	54	56	57	55	55
52	21	29	36	40	44	46	47	44	53	54	54	55	55	56	57	59	59	58

*Pair

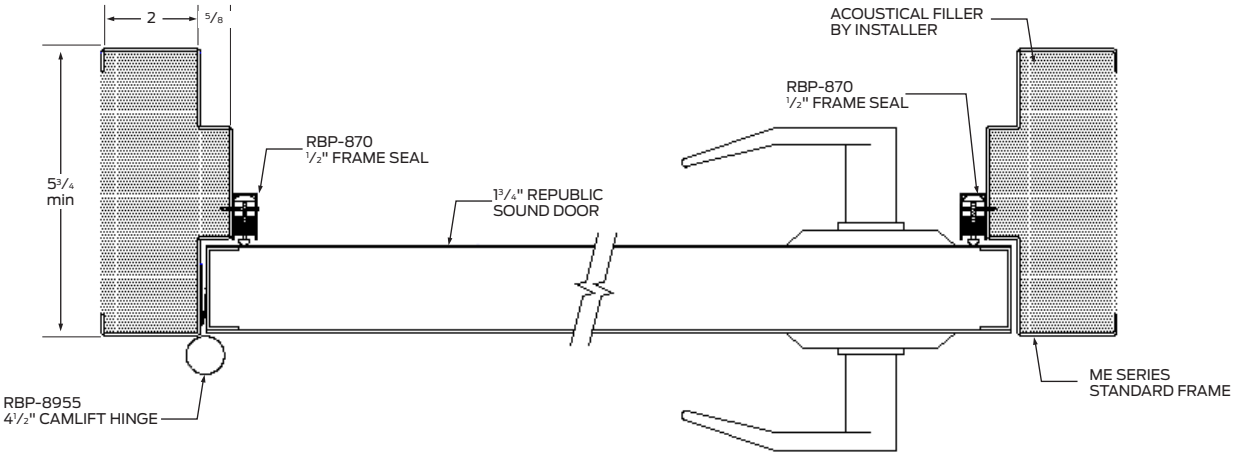
Sample STC 48 sound loss chart



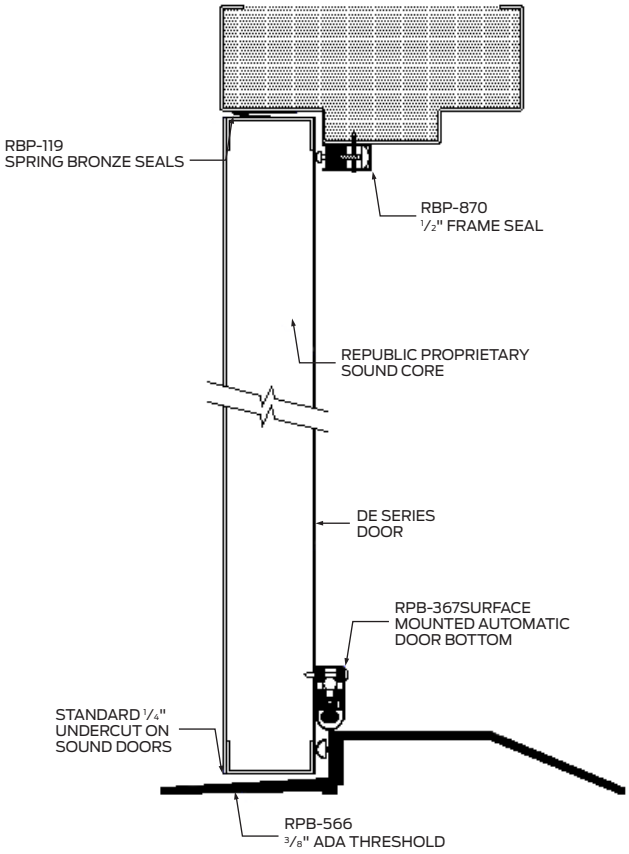
Testing and certification:
All door systems with in accordance with:
ASTM E 90-09
ASTM E 413-10
ASTM E 1332-10a
ASTM E 2235-04

Testing was performed by:
Architectural Testing Inc. and Riverbank Acoustical Laboratories

Typical Republic STC 48 to 52 systems



Typical head and still detail



Republic STC systems can include: threshold, adjustable head and jamb seals (soffit mounted), stationary seals at door rabbet, surface mounted auto door bottom and Cam-lift hinges. Reference republicdoors.com for details and cut sheets.

About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a $2 billion company, with products sold in almost 130 countries. For more, visit **www.allegion.com.**

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011907, Rev. 12/17
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