ACOUSTICAL PRODUCTS

Eggers Industries melds technology with style to produce some of the most beautiful, high-performing acoustical doors and frames.

Eggers Industries

Turning nature's beauty into works of art

ACOUSTICAL PRODUCTS

Eggers' sound control openings have the highest STC ratings in the industry. Our capabilities allow combinations of acoustical performance and other special functionalities to meet design requirements and building codes. Eggers' STC doors and frames are found in airports, healthcare and hospitality facilities, government and municipal buildings as well as educational institutions. Typical applications of our acoustical doors and frames include performance venues, conference rooms, lecture halls, auditoriums and classrooms.

Acoustic products are doors and frames that have been evaluated for sound transmission at a qualified testing laboratory per the ASTM standard test E-90-XX (where XX refers to the year). To ensure applicable data, make sure the products you are specifying reference a recent revision of the test method. Products tested to old standards may not offer the same level of performance as those tested to newer versions.

Acoustical Performance Testing Methods

There are two ways to test and report the acoustical performance of doors. The first is as a fixed panel. This is done by fully sealing the door to the frame perimeter, eliminating any sound leaks around the door perimeter. This type of test is helpful in determining the performance of the basic construction, but does not address a realistic application.

The second method is to test an operable assembly. In this case, the door is installed in a frame, including hinges and latching hardware and gasketing system. In addition to including all of the required components of an operable assembly, the test method requires the door be operated normally through five open/close cycles, without subsequent adjustments, prior to running the acoustic test. This test method provides a more realistic performance than an inoperable test. When comparing STC ratings, be sure that the ratings represent operable doors. While Eggers conducts R&D tests of many of our constructions as sealed panels, the advertised STC numbers are always for operable assemblies.

Eggers has generally limited the variables tested to the door construction, application and gasketing system. With a few notable exceptions, shown on our product matrix, we have limited our testing to readily available hardware and gasketing materials, ADA approved thresholds, where applicable, and steel frames. A special note regarding frames is appropriate here. Where steel frames are used in testing, they are solid filled with cement. This is a standard method of installation at testing laboratories and is done to ensure the resulting STC rating represents only the doors and gasketing system. This is not meant to restrict the openings in which acoustic doors are used. In many circumstances, existing frames or installation conditions may prevent the use of a solid filled frame. Where other types of fill are used, an acoustic consultant should be employed to determine if the alternate fill will maintain the desired acoustic performance for the opening.

The relevance chart below provides a general guideline of the effect various STC ratings have on speech being heard through the door.

STC RATING	SPEECH HEARD THROUGH THE DOOR
30	Loud speech can be understood fairly well
35	Loud speech audible but not understandable
40	Loud speech audible as a murmur
45	Loud speech barely audible
50	Loud speech not audible

Advantages of Eggers Acoustic Doors

Eggers has conducted acoustic tests on all our standard door constructions. In many cases where the acoustic properties need to be known, but are not the primary objective, a standard door construction may be all that is required. Where the project design requires acoustic performance above and beyond those of the standard doors, Eggers has designed and tested a full line of special constructions. Some of the benefits offered by this broad range of products include:

- STC ratings ranging from 38 through 51.
- Applications that include single swing, standard swing pairs, doors and transoms, and Dutch doors.
- Acoustic ratings for both flush and stile & rail doors.
- Applications without lites, with small lites (100 sq. in.), medium lites (370 sq. in.), large lites (1,296 sq. in), and even full lites.
- Applications with 20-, 45-, 60- and 90-minute fire ratings.
- Applications that provide x-ray as well as acoustical performance.
- Applications tested in wood frames.
- Applications for airport housing noise abatement programs.

Sound Groups

The components used to construct acoustic doors vary greatly in terms of their effect on sound energy as well as cost. The materials used to construct our various acoustic doors have been selected and assembled to maximize the STC rating at the lowest cost.

This has resulted in a variety of basic constructions we refer to as Sound Groups. There may be one or several STC ratings within a specific Sound Group depending on the gasketing, glazing and application options involved. The far right column in our STC Product Offering matrix indicates the Sound Group involved with each rating. In some cases, there are multiple options for a given STC rating that involves different Sound Groups – this is due to a difference in application, lites or gasketing options. Drawings of the various Sound Groups can be found at www.eggersindustries.com. These drawings show the STC ratings, options and gasketing systems available within the individual Sound Groups.

Guaranteed STC Ratings

The STC rating of acoustic doors depends on two things – the components used (doors and gasketing) and their installation. While Eggers does not perform installations, we are still able to guarantee our doors meet the advertised STC ratings when properly installed using the door construction, hardware, seals and, where applicable, the lites described in our STC Product Offering matrix. This guarantee is given with confidence because of the stringent acoustic tests we conduct on all acoustic assemblies. The Eggers name alone is your assurance of the highest standards possible.

While we encourage use of these tested assemblies, we also recognize the need for substitutions such as a different type of glass or alternate gasketing. In such cases, there is no longer a guarantee because there are no test reports for the final assembly. In those instances, Eggers will provide the same door construction used for the tested assembly, but without a "guaranteed" STC rating. This allows an increased design flexibility starting with a proven door construction. We recommend the use of an acoustic consultant to review the final assembly whenever substitutions are made.

As stated above, the final performance depends heavily on the installation. The best acoustic doors will fail to meet expectations if they are poorly installed. Acoustic applications are special. They generally involve close tolerances that require square and plumb openings. Do not expect an acoustic door to compensate for a poor frame installation. It is better to fix the opening before installing the door. After the assembly has been hung, the gasketing must likewise be properly installed. The acoustic assemblies have been designed such that seals are uniform between the door and the fixed elements of the opening. Extra time spent ensuring a good seal will pay off in superior quality sound control.

When gasketing an acoustic opening, a good analogy is to think about sealing out sound like you would seal out light in a darkroom. Wherever light can leak through the opening, so will sound. A simple field test after the assembly is fully installed is to close the door, turn out the lights on one side of the door and look for light streaming through the opening. To further aid in this test, have someone shine a bright flashlight around the perimeter on the opposite side as you inspect for leaks. Preventing or solving installation issues will address over 95% of unsatisfactory acoustic assemblies.



STC PRODUCT OFFERING

STC RATING BY DOOR TYPE AND ATTRIBUTES

	STC Rating	Wood Frame Available	Door Thickness	Max. Fire Rating	Gasket System	Glazing System	Glazing Type	Glazing Area Sq. In.	Weight Per Sq. Ft.	Test Report	Core Type
Flush Single Swing	51	NA	2-1/4"	20	A	N/A	-	-	15.8	TL94-37	SG6
	48	NA	1-3/4"	20	A	N/A	-	-	13.7	TL97-320	SG5
	48	NA	2-1/4"	N/A	A	Bead: 110	1-1/8" Sealed	370	15.8	TL95-350	SG6
	47	NA	1-3/4"	60	A	N/A	N/A	N/A	15.7	TL03-023	SG8
	47	NA	2-1/4"	20	A	VP:110-D2	Fire-Rated/Tempered	370	15.8	TL95-351	SG6
	46	NA	1-3/4"	60	A	VP:Lo Pro IS	1" Insulated Glass Unit	100	15.7	TL03-024	SG8
	45	Yes*	1-3/4"	20	A	N/A	-	-	7.7	TL94-220	SG4
	44[1]	Yes*	1-3/4"	20	I	N/A	-	-	7.7	TL10-134	SG4
	43	Yes*	1-3/4"	20	C	N/A	-	-	7.7	TL96-260	SG4
	43	Yes*	1-3/4"	N/A	G	N/A	-	-	7.7	TL98-229	SG4
	43	Yes	1-3/4"	20	A	VP:110-D2	Fire-Rated/Tempered	100	7.7	TL03-020	SG4
	43	Yes	1-3/4"	N/A	A	Bead: 110	1-1/8" Sealed	370	13.6	TL03-022	SG5
	43	Yes*	1-3/4"	N/A	A	Bead: 110	1-1/8" Sealed	100	7.7	TL03-019	SG4
	43[1]	Yes*	1-3/4"	20	I	N/A	-	-	8.0	TBA	SG3
	42	Yes*	1-3/4"	20	D	N/A	-	-	7.7	TL96-261	SG4
	42	Yes	1-3/4"	N/A	A	Bead: 107	1/2" Laminated	370	7.7	TL03-021	SG4
	41	Yes	1-3/4"	N/A	B	Bead: 107	1/2" Laminated	370	6.5	TL03-012	SG3
	41	Yes	1-3/4"	N/A	B	Bead: 110	1-1/8" Sealed	370	6.5	TL03-013	SG3
	41	Yes*	1-3/4"	20	B	N/A	-	-	7.7	TL03-015	SG4
	41	Yes*	1-3/4"	20	J	N/A	-	-	6.2	TL05-053	SG3
	41	Yes*	1-3/4"	20	C	N/A	-	-	6.2	TL06-049	SG3
	41	Yes*	1-3/4"	20	I	N/A	-	-	6.3	TL06-055	SG3
	41	Yes*	1-3/4"	20	A	VP:110-D2	Fire-Rated/Tempered	370	7.7	TL95-348	SG4
	41	NA	1-3/4"	45	B	VP:Lo Pro IS	1" Insulated Glass Unit	370	9.2	TL97-313	SG7
	40	NA	1-3/4"	90	C	N/A	-	-	7.6	TL06-051	SG9
	40	Yes*	1-3/4"	20	B	VP:110-D2	Fire-Rated/Tempered	370	7.7	TL95-347	SG4
	40	NA	1-3/4"	45	A	N/A	-	-	9.2	TL95-349	SG7
	40	Yes*	1-3/4"	20	E	N/A	-	-	7.7	TL96-262	SG4
	39	NA	1-3/4"	90	I	N/A	-	-	7.7	TL06-053	SG9
	39	NA	1-3/4"	45	B	N/A	-	-	9.2	TL95-346	SG7
	38	Yes	1-3/8"	N/A	F	N/A	-	-	5.5	TL94-040	SG2
	38	Yes	1-3/8"	N/A	F	Bead: 110	3/4" Sealed	370	6.4	TL96-258	SG2
	38	Yes	1-3/4"	N/A	B	Bead: 107	1/2" Laminated	1296	6.5	TL03-014	SG3
	38	Yes	1-3/4"	N/A	B	Bead: 110	1-1/8" Sealed	1296	7.1	TL03-016	SG4
	38	Yes	1-3/4"	20	H	N/A	-	-	6.5	TL03-017	SG3
	37	Yes*	1-3/4"	20	I	Bead: 100	Firelite Plus	370	6.0	TL05-051	SG3
	37	Yes	1-3/4"	N/A	I	Bead: 110	1-1/8" Sealed	Full-Lite	5.9	TL05-052	SCL
	37	NA	1-3/4"	60	I	VP:115-L1	Firelite Plus/Leaded	100	10.3	TL05-126	SG13
	36	NA	1-3/4"	60	I	N/A	-	-	10.2	TL05-125	SG13
	32	Yes*	1-3/4"	20	I	N/A	-	-	6.9	TL06-059	SCL
	32	Yes*	1-3/4"	20	I	VP:Lo Pro IS	1" IGU	370	6.9	TL06-59/ TL97-313	SCL
	32	Yes	1-3/4"	N/A	I	Bead: 110	1-1/8" Non-Rated IGU	370	6.9	TL06-59/ TL03-013	SCL
	32	Yes	1-3/4"	N/A	I	Bead: 107	1/2" Laminated	370	6.9	TL06-059/ TL03-012	SCL

* Not available in fire-rated openings at this time.

[1] This construction requires the use of the vinyl (eiDoor™) construction

STC PRODUCT OFFERING

STC RATING BY DOOR TYPE AND ATTRIBUTES

	STC Rating	Wood Frame Available	Door Thickness	Max. Fire Rating	Gasket System	Glazing System	Glazing Type	Glazing Area Sq. In.	Weight Per Sq. Ft.	Test Report	Core Type
Flush Single Swing	31	Yes*	1-3/4"	20	I	N/A	-	-	5.8	TL06-058	PC
	31	Yes*	1-3/4"	20	I	VP: Lo Pro IS	1" Rated IGU	370	5.8	TL06-058/ TL97-313	PC
	31	Yes	1-3/4"	N/A	I	Bead: 110	1-1/8" Non-Rated IGU	370	5.8	TL06-058/ TL03-013	PC
	31	Yes	1-3/4"	N/A	I	Bead: 107	1/2" Laminated	370	5.8	TL06-058/ TL03-012	PC
	30	Yes*	1-3/4"	20	I	N/A	-	-	4.6	TL06-056	SLC
	30	Yes*	1-3/4"	20	I	VP: Lo Pro IS	1" Rated IGU	370	4.6	TL06-056/ TL97-313	SLC
	30	Yes	1-3/4"	N/A	I	Bead: 110	1-1/8" Non-Rated IGU	370	4.6	TL06-56/ TL03-013	SLC
	30	Yes	1-3/4"	N/A	I	Bead: 107	1/2" Laminated	370	4.6	TL06-056/ TL03-012	SLC
	29	Yes*	1-3/4"	90	I	N/A	-	-	4.4	TL06-057	MC
	27	Yes*	1-3/4"	20	I	N/A	-	-	4.9	TL07-035	AGR
	27	Yes*	1-3/4"	20	I	VP: Lo Pro IS	1" Rated IGU	370	4.9	TL06-056/ TL97-313	AGR
	27	Yes	1-3/4"	N/A	I	Bead: 110	1-1/8" Non-Rated IGU	370	4.9	TL06-56/ TL03-013	AGR
	27	Yes	1-3/4"	N/A	I	Bead: 107	1/2" Laminated	370	4.9	TL06-056/ TL03-012	AGR
Stylus	33	Yes*	1-3/4"	20	I	N/A	-	-	5.5	TL07-057	PC
	32	Yes*	1-3/4"	20	I	N/A	-	-	6.2	TL07-058	SCL
	31	Yes*	1-3/4"	90	I	N/A	-	-	4.3	TL07-059	MC
Flush Active-Inactive Pairs	49	NA	1-3/4"	20	A	N/A	-	-	13.7	TL98-238	SG5
	44	NA	1-3/4"	20	A	N/A	-	-	7.7	TL98-236	SG4
	41	NA	1-3/4"	20	B	N/A	-	-	7.7	TL98-233	SG4
Flush Active-Active Pairs	41	NA	1-3/4"	20	K	N/A	-	-	6.2	TL08-007	SG3
	40	NA	1-3/4"	N/A	K	Bead: 100	1/2" Laminated	370	6.3	TL08-009	SG3
	34	NA	1-3/4"	45	K	Lo-Pro IS	Superlite II-XL-45	Full Lite	6.5	TL11-111	MC
	31	NA	1-3/4"	90	K	N/A	-	-	7.2	TL11-110	MC
	31	Yes	1-3/4"	20	K	N/A	-	-	6.4	TL11-112	SCL
Dutch Door	44	Yes*	1-3/4"	20	A	N/A	-	-	7.7	TL98-237	SG4
Door & Transom	44	Yes*	1-3/4"	20	A	N/A	-	-	7.7	TL98-237	SG4
Communicating	53	NA	1-3/4"	20	B	N/A	-	-	7.7	TL98-219	SG4
Stile & Rail Single Swing	40	Yes*	1-3/4"	N/A	B	N/A	-	-	8.3	TL99-120	SG12
	40	Yes*	1-3/4"	N/A	A	Bead: 110	Non-Rated IGU	370	8.3	TL99-122	SG12
	39	Yes*	1-3/4"	N/A	I	Bead: 110	Non-Rated IGU	1296	7.0	TL05-123	SG12
	38	NA	2-1/4"	90	A	N/A	-	-	12.5	TL97-321	MC
	37	NA	2-1/4"	90	B	N/A	-	-	12.5	TL97-312	MC
	36	NA	1-3/4"	60	B	N/A	-	-	9.7	TL97-317	MC
	33	Yes	1-3/4"	20	B	N/A	-	-	5.9	TL94-41	SCL
	33	Yes	2-1/4"	20	B	N/A	-	-	6.9	TL97-311	SCL
Stile & Rail Active-Active Pairs	37	Yes*	1-3/4"	N/A	K	N/A	-	-	7.9	TL11-109	SG12
	35	NA	1-3/4"	60	K	N/A	-	-	10.2	TL11-108	MC
	32	Yes	1-3/4"	20	K	N/A	-	-	5.9	TL11-107	SCL

* Not available in fire-rated openings at this time.

Gasket System	Components	Required Undercut
A	Double row Pemko S-88 gasket, Pemko 434 door bottom, Pemko 2005 threshold	1/2"
B	Double row Pemko S-88 gasket, Pemko 434 door bottom	1/4"
C	Double row Pemko S-88 gasket, Pemko 234 door shoe, Pemko 2005 threshold	3/8"
D	Pemko 303 stop, Pemko 234 door shoe, Pemko 2005 threshold	3/8"
E	Pemko 303 stop, Pemko 434 door bottom	1/4"
F	Double row Pemko S-88 gasket, Pemko 411 door bottom	1/4"
G	Double row Pemko S-88 gasket, Pemko 222 door shoe, Pemko 181 threshold	1"
H	Double row Pemko S-88 gasket, Pemko 234 door shoe, Pemko 173 threshold	5/16"
I	Double row Pemko S-88 gasket, Zero 369 door bottom	5/8"
J	Q-Ion gasket, Pemko 303 stop, Pemko 234 door shoe, Pemko 181 threshold	3/4"
K	Double row Pemko S-88 gasket and pad on frame, Zero 369 door bottom,	5/8"

Installation Instructions

The manufacturers of the gasketing, door bottom and thresholds will generally provide a set of installation instructions with their components. This section is meant to augment those instructions.

Perimeter gasketing is intended to form a seal between the door leaf and the frame. Most of the systems used with Eggers' doors include a double row of bubble gaskets to achieve this seal. The drawing below shows the normal installation, indicating the direction of the bubble. If necessary, due to installation clearances, the bubble attached to the wide part of the frame (not the stop) may be positioned further from the stop. It is important that the bubble be in contact with the closed door.

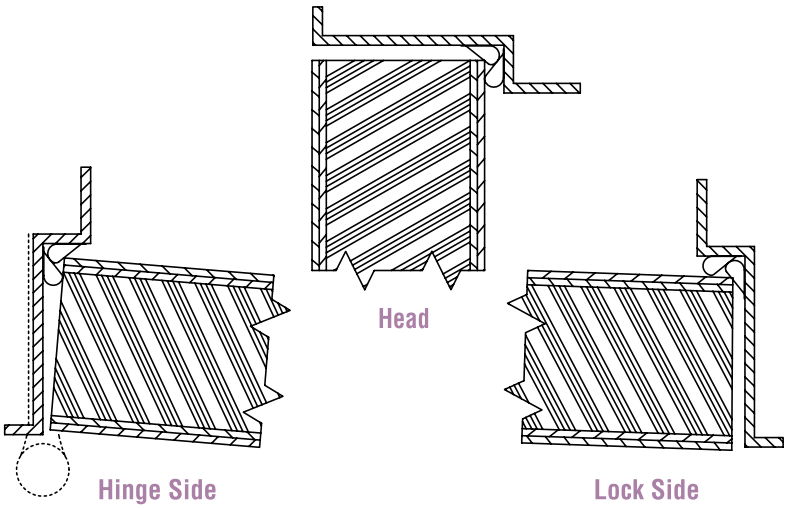
Thresholds should be adjusted and secured based on the position of the closed door. The seal should make uniform contact with the door surface.

Avoid excessive force between the door and threshold as this can hold the door away from the frame seals.

Auto door bottoms should be properly sized to the door width. Avoid undersizing them as this will prevent a good seal and allow sound to "leak" past.

There are several glazing options within Eggers' approvals. To ensure proper sealing, Eggers recommends factory glazing of acoustic doors, where it can be accomplished in a controlled environment by installers familiar with the process.

Where doors are to be field glazed, a good seal must be made between all of the components, regardless of the glazing system used. The best way to do this is with a small bead of 100% pure silicone. The seal does not have to be thick, but it must be continuous.



Note: Gasketing shown in non-compressed position.

Eggers Industries

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Veneered Components**

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Eggers releases regular product updates. Please visit www.eggersindustries.com for the most current and accurate technical information. Specification details published online supercede those in print.

The FSC certification ensures responsible use of forest products.

Ask us for FSC certified products