

Acoustic Doorway Solutions

Sound Transmission Control for Any Facility



TASKDOOR include :
WOOD DOORS | STEEL DOORS | FRAMEWORKS | SPECIALTY DOORS

Leader in door opening
solutions supporting
end-user for safety,
security and suitability.



TASK Current

Trankuil

Acoustic

STC upto 57

TASKDOOR is the leader in door opening solutions. Our goal is to support facilities improve all aspects of doorways with life-safety, security, suitability and design solutions.



TASKDOOR solutions support designers to provide building occupants with an indoor environment free of disturbing levels of sound.

TASKDOOR offer assemblies with a wide range of sound ratings for diverse and demanding environmental conditions.

Acoustical Openings are:

- Available with wood, hollow metal, stainless steel, doors and frames.
- An economical and long-lasting noise reduction solution.
- Provided with all appropriate seals.

Providing Acoustic Solutions

Trankuil

Acoustic

Rw upto 56

TASKDOOR have designed interior solutions that provide excellent acoustic control. Each of the design confirms with the Sound Transmission Class (STC) ratings as required by multiple codes and industry standards. TASKDOOR offer assemblies with a wide range of sound ratings for diverse and demanding environmental conditions.

TASKDOOR provide superior acoustic solutions for:

- Education
- Healthcare
- Hospitality
- Military and Government
- Office

TASKDOOR Deliver Superior Acoustic to environs

Demonstrating leadership in door opening solutions. TASKDOOR is industry's first to address acoustical challenges.

TASKDOOR with technical expertise generate interior spaces that meet or exceed the most stringent acoustical requirements.



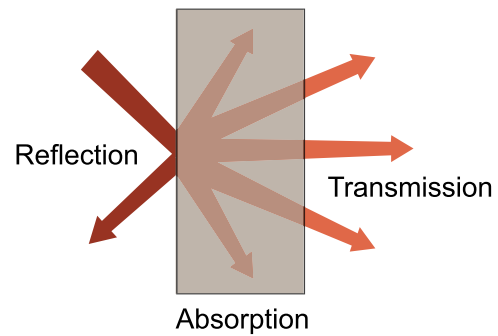
The Influence of Sound

Trankuil *Acoustic* OITC upto 38

Music is enjoyable recreation. But when it's blaring from an adjacent room, it can be disturbing. Same goes for voices, outdoor machinery, vehicle traffic or children laughing. Good building design can help control sound to ensure that a space will achieve the purpose for which it was designed, be it to promote sleep, healing, learning or information security.



When sound falls on a door assembly, part of it is reflected and part is absorbed, the remainder is transmitted through the door assembly.



Building codes and standards contain requirements for the acoustic performance of walls, doors, windows, ceilings and other elements. These sound control measures protect occupants from excessive noise. While complex formulas calculate sounds at various frequencies in noise studies, humans quickly identify noise and when they experience poor acoustics. TASKDOOR control sound transmission and create better acoustical environments that benefits all building occupants.

Simple Acoustics

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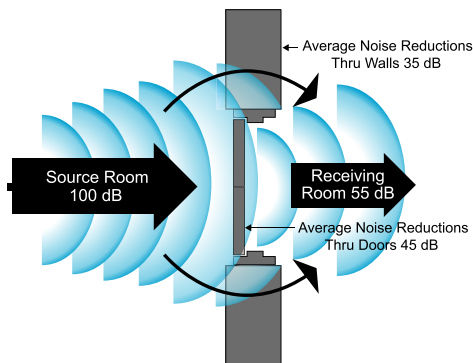
Acoustic

In Wood Finish

Sound Transmission Reduction Relies on Two Main Principles:

Sound Absorption - Removing sound energy from within a room by using materials to soak up or block the transmission of sound.

Sound Reflection - Preventing the transmission of sound waves by introducing a barrier. Examples include brick, concrete, metal, wood doors, etc. In order to reduce the transmission of sound, materials are added between the source room and the receiving room. The resulting change in decibel level is the sound transmission loss and is given a Sound Transmission Class (STC) rating. The higher the rating number, the lower the transmission of sound. The STC rating is roughly the decibel reduction an assembly can provide.



If a 100 dB noise is reduced to 55 dB, that product roughly has a STC 45 rating.

TASKDOOR tested to the follow test method:

- ASTM E90-90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements - 2009
- ASTM E413-10 – Classification for Rating Sound Insulation
- ASTM E1332-10a – Standard Classification for Rating Outdoor-Indoor Sound Attenuation
- ASTM E2235-04(2012) – Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods
- ISO 717.1 2013 “Acoustics - Rating of sound insulation in buildings and of building elements part 1
- ISO 10140 - 2 2010 “Acoustic - Laboratory measurement of Sound Insulation of Building Elements - part 2

Understanding Sound

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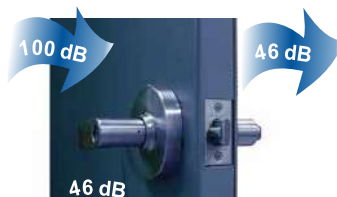
Acoustic

In Powder coat Finish

Sound is the human ear's response to the fluctuation of pressure, or vibrations, moving through the air. The fluctuation of pressure is measured in decibels (dB) indicating the intensity or loudness of sound. With the use of acoustic products, sound can be absorbed, dampened, insulated or isolated. The effectiveness of these products is labeled by STC ratings. Higher the STC value signifying greater reduction of unwanted sound.

Sound Transmission Class (STC):

In a sound test, an assembly will be tested for two STC ratings. The first is called the "sealed-inplace" rating. This is an assembly where a door is placed within a frame and acoustic putty is then applied to the four sides of the door (top, bottom and jambs). It is then placed into a test chamber between the source room and receiving room and is subjected to 16 one-third octave bands between 125 and 5000 hertz. The resulting "score" is the best possible STC rating the opening can achieve. The next rating is called the "operable" rating. This same assembly is used in the next application but without the acoustic putty. Instead, perimeter gaskets, door bottoms and seals are used to block the transmission of sound.



Sound Level dB	Environment	Noise Level
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	Jetaircraft at 100'	Physical pain

Transmission Reduction in Door Openings

Trankuil Acoustic In Wood & Steel

The STC of a door is governed through acoustic testing (sealed-in-place). Many factors impact the STC result including the door base materials, thickness/mass, the internal sound core and the overall stiffness of the door.

STC drop can be reduced by selecting high performance acoustic products that help to seal the opening when the door is closed. These products are Perimeter seals, door bottoms, thresholds, continuous hinges and exceptional TASKDOOR - STC doors and frames.

Acoustic Door Testing Methods and Procedures: Acoustic Door Testing is done on “sealed-in-place” doors for door STC ratings, as well as on assemblies (with gaskets and door bottoms) for operable STC ratings. Operable STC ratings are always equal to or lower than the sealed-in-place ratings. The best performance rating on the operable test is a “zero drop” in the assembly's STC rating. For example, a door with an STC 45 rating can only achieve an operable STC of 45 at its very best; it can never achieve a STC 50. Testing conforms to ASTM E90-2009 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.



For determining STC ratings, normal human speech and hearing are used. In most cases the level of reduction does not totally eliminate but rather dampens the sound to a garble. The chart shown below compares the level of speech that would be heard through a door opening with the indicated operable STC rating.

Operable STC Rating	Level of Speech Heard
STC-30	Loud speech understood
STC-35	Loud speech heard but not understood
STC-40	Loud speech audible as a murmur
STC-45	Some loud speech barely audible
STC-48	Hearing strained to hear loud speech
STC-50	Loud speech not audible

Education Solutions

Trankuil

Acoustic

STC 30 - STC 40

Sound Transmission Class Ratings describe how good a building partition reduces sound. The higher the rating number, the lower the transmission of sound. For instance a standard classroom door requires a STC 30, but a music classroom door requires a STC 40 (ANSI S12.60-2002).



Education: Acoustics Influence Learning.

Loud noises are disturbing in educational settings. Quiet classrooms engage students with focus and promote creativity and positive skills.

STC 30 - 40 Acoustical Solution for Education Environs
(Example Solution - STC 35)

TASKDOOR	Trankuil - Acoustic Wood Door
TASKFRAME	Wood - Frame
TASKFRAME	Hollow Metal - Frame
TASKDOOR	Trankuil - Acoustic Steel Door
TASKFRAME	Hollow Metal - Frame
STC Seal Set (Includes Gasket and Door Bottom)	

Optional Features:

- Antimicrobial coating.
- Fire resistant upto 180 minutes in Steel and 120 minutes in Timber.
- Timber acoustic door thickness can be 70mm.
- Optional Bullet Resistant.
- Optional Blast Resistant.

Office Solutions

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Acoustic

STC 30 - STC 45

Acoustics Influences Employee Efficiency and Health. The commotion of a noisy work environment reduces productivity, escalates fatigue, stress and illness. A noiseless work space has a progressive impact on employee efficiency, productivity, health and general job contentment.

Optional Features:

- Fire resistant upto 180 minutes in Steel and 120 minutes in Timber.
- Timber acoustic door thickness upto 70mm available.
- Optional Bullet Resistant.
- Optional Blast Resistant.

STC 45 Acoustical Solution for Standard Office Environs
(Example Solution - STC 45)

TASKDOOR	Trankuil - Acoustic Wood Door
TASKFRAME	Wood – Frame
TASKFRAME	Hollow Metal – Frame
TASKDOOR	Trankuil - Acoustic Steel Door
TASKFRAME	Hollow Metal - Frame
Frame Perimeter Seals and Threshold	
<i>Other acoustical solution variations available</i>	



Healthcare & Hospitality Solutions

Trankuil Acoustic STC 45 - STC 50

For healthcare facilities and hospitality environs, research has recognized that meeting the suggested STC ratings can promote healing, improve the way one feels, interconnects and works. To determine an appropriate level of noise for a location, an assessment of the current noise level must be done, and the preferred level determined. The required STC rating needed is reliant on how the space will be used.

Healthcare: Acoustics Supports Patient Healing.

A modern hospital is full of buzzing and beeping equipments that are constantly required to monitor patients. This noise disturbs staff from the job at hand and disrupts patients' sleep. A well designed acoustical environ largely improves patient healing.

Hospitality: Acoustics Supports Guest Experience.

A quiet environ is calming, promotes quality, provides a good night's sleep and projects, safety and security. Unwarranted noise makes a hotel feel demanding, hasty and uncontrolled.

Optional Features:

- Antimicrobial coating.
- Fire resistant upto 180 minutes in Steel and 120 minutes in Timber.
- Timber acoustic door thickness can be 70mm.
- Optional Bullet Resistant.
- Optional Blast Resistant.
- Vinyl skin with removable edge and fire rating available.

STC 45-50 Acoustical Solution for Healthcare and Hospitality Environs (Example Solution - STC 47)

TASKDOORS	Trankuil - Acoustic Wood Door
TASKFRAME	Wood – Frame
TASKFRAME	Hollow Metal – Frame
TASKDOORS	Trankuil - Acoustic Steel Door
TASKFRAME	Hollow Metal - Frame
STC Seal Set (Includes Gasket and Door Bottom)	
<i>Other acoustical solution variations available</i>	



Military & Government Solutions

Trankuil

Acoustic

STC 50 - STC 57

Military and Government: Acoustics Supports Information Security. All departments at the military, federal and state governments have varying needs for sound control to protect sensitive information.



Optional Features:

- Fire resistant upto 180 minutes in Steel and 120 minutes in Timber.
- Timber acoustic door thickness can be 70mm.
- Optional Bullet Resistant.
- Optional Blast Resistant.

STC 55 Acoustical Solution for Military and Government Environs (Example Solution - STC 55)

TASKDOOR	Trankuil - Acoustic Wood Door
TASKFRAME	Wood – Frame
TASKFRAME	Hollow Metal – Frame
TASKDOOR	Trankuil - Acoustic Steel Door
TASKFRAME	Hollow Metal - Frame
Perimeter Seal System with Threshold	
<i>Other acoustical solution variations available</i>	

TASKDOOR - Security Solution Providers

Our Security Solutions Providers and specification consultants work with distributors and end-users to ensure complete life-safety and security solutions for commercial facilities. This is achieved by understanding end-user needs and combining products accordingly. Support services include architectural education, technical expertise, and assistance with code compliance. Visit www.taskdoors.com to learn how we can help with your security and life-safety needs.



Leader in door opening solutions supporting end-user for safety, security and suitability.

Engineered Special Doors



Fire Rated Wood Doors

Grandeur Grandeur

Non Fire Rated Wood Doors

Regal Regal

Fire Rated-Non Fire Rated Steel Doors

Regente Stalwart Tiara Majestic
Victor Cresta

Hardware



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www.taskdoors.com

Leader in door opening solutions supporting end - user for safety, security and suitability

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TASKDOOR – ACOUSTIC
