

Acoustic Door Solutions

2026

FOREST BRIGHT

ARCHITECTURAL WOOD DOOR

IS THE DOOR THE WEAKEST PART IN SOUND INSULATION DESIGN?

When it comes to soundproofing a room, the door is often the weak spot—and it can make or break the acoustic performance.
Sound insulation isn't just about comfort. In hospitals, hotels, schools, and offices, it's essential.



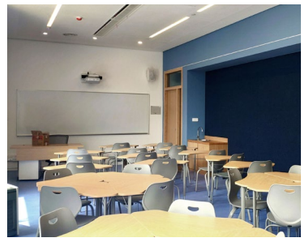
Hospitality

Guest satisfaction starts with a peaceful night's sleep.



Healthcare

Quiet environments help patientsrecover and protect privacy.



Education

A quieter classroom means better focus and learning.

To build true acoustic environments, every detail counts—walls, ceilings, floors, and most critically, the doors. Without proper sound-rated doors, even the best acoustic design can fall short.

Acoustic Requirements (Selected Standards)

Application	Minimum Rating (Rw/STC)
Hotel Room Door (Grade 1)	≥ 35dB
Hotel Room Door (Premium)	≥ 40dB
Audiometry Room Door (Hospital)	≥ 30dB
Residential Interior Door	≥ 25dB
Standard Classroom Door	≥ 25dB
Specialty Classroom Door	≥ 35dB
Office Interior Door	≥ 25dB
Other Hospital Rooms	≥ 25dB

Environment/ Sound Source	Sound Level(dB)	
Jet engine at close range	140	
Car horn (nearby)	110	
Inside a subway train	90	
Inside a bus	80	
Urban traffic	70	
Normal conversation	60	
Standard office	50	
Living room / background music	40	
Quiet bedroom at night	30	
Broadcast studio	20	
Threshold of human hearing	0	

WHAT IS ACOUSTIC RATINGS?

STC vs. Rw – What Do They Mean?
Two key metrics are used to evaluate a door's sound performance:

STC (Sound Transmission Class) – The standard rating used in North America, defined by ASTM E90 and E413. It focuses on speech-range frequencies (125–4000 Hz) and is ideal for evaluating noise from voices, TV, and office equipment.

Rw (Weighted Sound Reduction Index) – A widely adopted international standard (ISO 717-1), covering a broader frequency range starting from 100 Hz. It's more sensitive to low-frequency sounds like footsteps or mechanical vibrations.

HOW ACOUSTIC DOORS ARE TESTED

Lab testing measures how well a door blocks airborne sound between two rooms:

Source Room: Sound is played through a speaker.

Receiving Room: A microphone records the sound that passes through the door.

Result: The difference in sound pressure (dB) determines the door's acoustic rating.

Testing follows standards based on region: ASTM E90 / E413



Note: Field test results (FSTC) are typically 5–7 dB lower than lab results due to real-world variables.

Rw vs.STC-Definitions and Differences

Category	Rw (Weighted Sound Reduction Index)	STC (Sound Transmission class)
Standard	ISO 717-1	ASTM E9O /ASTM E413
Region of Use	International (China, Europe, etc.)	North America (USA, Canada)
Frequency Range	100 Hz- 3150 Hz	125 Hz-4000 Hz
Noise Sensitivity	More sensitive to low-frequency noise (e.g. footsteps, vibration)	More sensitive to mid/high-frequency noise (e.g., speech, music)
Weighting Curve	A-weighted (based on human hearing perception)	STC-specific curve (focuses more on 2000-4000 Hz)
Typical Use	Walls, floors, doors, windows	Same as Rw
Typical Value Gap	Usually 1-2 dB higher than STC (depending on conditions)	Typically slightly lower, especially in low-frequency response
Best For	Environments with broad-spectrumm noise control	Speech-focused spaces like hotels, offices

FOREST BRIGHT ACOUSTIC DOOR SERIES

Reliable Performance. Tailored for Every Space.

With years of experience in door acoustics, Forest Bright has developed a complete range of sound-rated door systems. Our acoustic doors are tested, certified, and built to meet diverse project needs—from quiet offices to premium hotel suites.

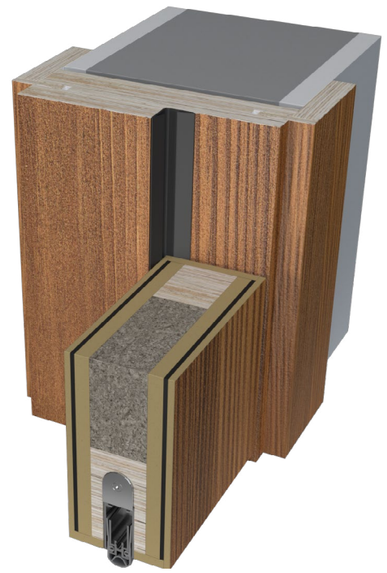


MODEL OVERVIEW

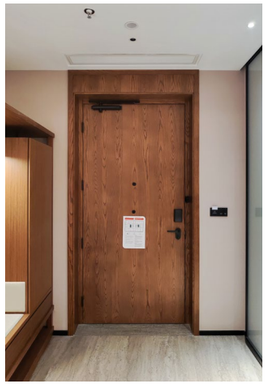
Model	Door Leaf Thickness	Acoustic Rating(Rw/STC)	Fire Rating(Optional)	Recommended Use
FB-STC30	50mm	Rw/STC30	Non-fire / 30min	Residential interiors, quiet officezones
FB-STC32	50mm	Rw/STC32	Non-fire / 30min	Hotel rooms, homes, offices, clinics
FB-STC35	50mm	Rw/STC35	Non-fire / 30min	Premium hotel rooms, meetingspaces
FB-STC37	50mm	Rw/STC37	Non-fire / 30min	Street-facing homes, theaters
FB-STC40	58mm	Rw/STC40	60min	Recording studios, high-end hotels
FB-STC42	58mm	Rw/STC42	60min	Studios, boardrooms, premiumsuites

ENGINEERED FOR SILENCE

- **Multi-layer Core**
  Custom-developed acoustic core blocks low, mid, and high frequencies.
- **Three-Side Sealing + Drop Seal**
  Triple-layer edge design paired with bottom auto-drop seal system maximizes airtightness.
- **High-Precision Fit**
  Door, frame, and hardware engineered to millimeter-level precision.
- **Tested Performance**
  Full door assemblies tested by certified third-party labs.
- **Optional Add-ons**
  Fire-rated up to 60 minutes. Smoke-seal capability, Formaldehyde-free materials available.
- **Meets U.S.Standards**
  Built to WDMA manufacturing specs, STC-rated for U.S. market compliance.









Hilton Garden Inn -Xixi Zijin Port

- Hangzhou, China
- 145 Rooms
- Completed: 2022

Located near Zhejiang University and Xixi Wetland, this project focused on style and acousticquality.

- Fully custom acoustic door sets (guestroom, connecting doors, service areas)
- Natural oak finish with detailed joinery
- High-performance STC-rated doors installed on schedule





Shanghai French-German School

- Shanghai, China
- Campus Project
- Completed: 2019

Complete door package for a new international school campus:

- Custom bamboo and HPL acoustic doors, hidden flush design
- STC-rated door cores for classrooms and common areas
- All hardware systems designed and matched in-house
- Seamless coordination for on-time delivery





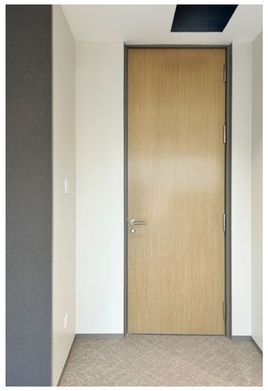
Hilton Garden Inn – Kuanzhai Alley

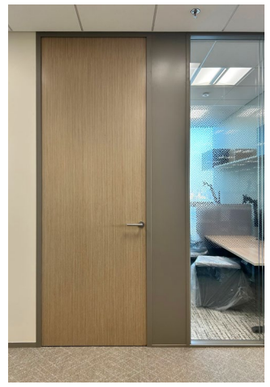
- Chengdu, China
- 167 Rooms
- Completed: 2023

Forest Bright delivered a full acoustic door package aligned with Hilton Garden 3.0 brand standards.

- Customized white oak veneer finish
- 30-minute fire rating
- Sound insulation STC 35 (lab), FSTC 30+ (on-site)
- On-time delivery and full compliance with hotel operator specs







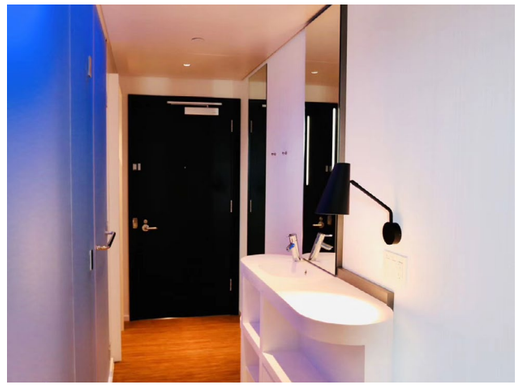
Gates Foundation Headquarters

- Beijing, China
- Office Project
- Completed: 2023

Tailored acoustic solutions for a premium office environment:

- Floor-to-ceiling glass partitions with extra-tall wood acoustic doors
- Light wood finishes with gray frame accents
- Precision installation for STC-compliant performance
- Full-cycle delivery: site survey, solution design, installation



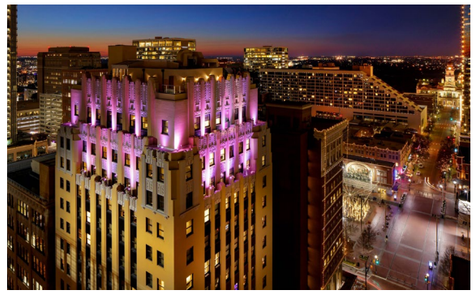


CitizenM Los Angeles Downtown

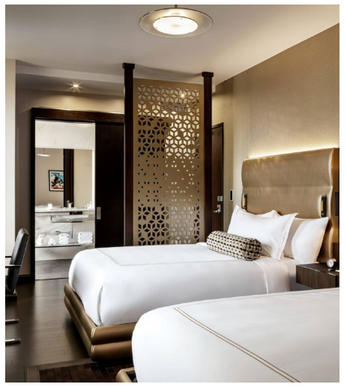
• Los Angeles, USA • 420 Rooms • Completed: 2019

For this modular-design hotel led by Gensler:

- UL 45-minute fire-rated entry doors.
- STC 42 soundproofing.
- TPA ULEF-compliant low formaldehyde materials.
- Forest Bright supplied all interior wood doors and selected steel doors.







The Sinclair – Autograph Collection by Marriott

• Dallas, USA • 250 Rooms • Completed: 2018

Historic landmark transformed into a luxury hotel:

- Custom sliding doors inspired by elevator metalwork.
- Lightweight door design to solve structural challenges.
- Forest Bright provided all sliding doors and hardware.



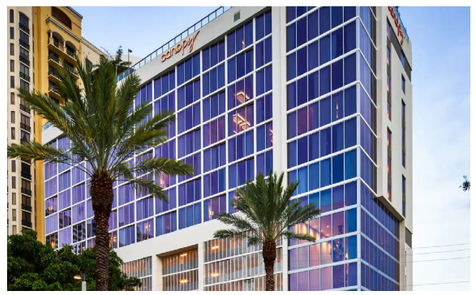


The Peregrine Hotel – Curio Collection by Hilton

• Omaha, USA • 315 Rooms • Completed: 2019

A historic upgrade to Hilton's luxury Curio Collection:

- Fire-rated entry doors and custom suite doors.
- Acoustic design aligned with vintage architectural themes.





Canopy by Hilton – West Palm Beach

• Florida, USA • 215 Rooms • Completed: 2019

Delivered high-end guestroom doors for Hilton’s Canopy brand, balancing aesthetics with fire and acoustic performance.

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