Continuing Education Course – Supplemental Reading

Why FSTC is more important than STC

Sound Transmission Class, or STC, measures how well a wall or partition prevents sound, or more specifically speech, from transmitting to the other side of this same wall or partition. STC is represented by a single number that rates the blocking properties of a wall or partition. STC is measured in a laboratory under specific controlled conditions for sound and construction.

However, the specific controlled conditions that are used to determine STC are rarely achieved in actual interior building construction, as normal space often contains many flanking paths, wall and ceiling penetrations, and other construction openings. Thus, it is important to not only look at laboratory STC values, but to also understand their real limitations.

Field Sound Transmission Class, or FSTC, utilizes the measurement and function of actual background noise levels, room volumes, surface areas, sound absorption values and spectral content of the sound source. FSTC testing is done in such a way as to limit the extraneous factors that affect the value rating for the partition in order to arrive at a value that truly represents the partition's performance. Because these "normal" conditions ultimately decrease a wall's perceived and actual acoustical blocking properties, FSTC values can be six to ten points lower than the laboratory published STC values.

The FSTC calculation provides a better understanding of the actual performance measurement, rather than the acoustical lab value that the STC represents. Consequently, in field applications, FSTC measurements are often considered by acoustic professionals to be a more important criterion than widely published STC values for understanding the field performance for the blocking properties of interior wall and partition space.

It is important to note that regardless of what STC is ultimately selected, it is critical to control and seal all air-gaps, penetrations and deal with flanking paths for sound. Failure to do so can significantly degrade sound blocking capability.

Contact your local acoustical engineer to help you with obtaining good FSTC measurements or visit ASA.org or NCAC.org to find an acoustical engineer near your practice.

Reference: Lencore

Typical Architectural Specifications for Accordion Doors

1. Non-Acoustic

Accordion-type with panels connected continuously along the top and bottom by a steel hardware hinge system. Panel connectors shall be flexible extruded vinyl throughout length. Individual hinges are riveted to those adjoining, and contain stops to maintain a uniform extended position. Doors shall be suspended by nylon wheels from aluminum overhead track. All necessary hardware shall be included for normal installation.

2. Security Style, Non-Acoustic

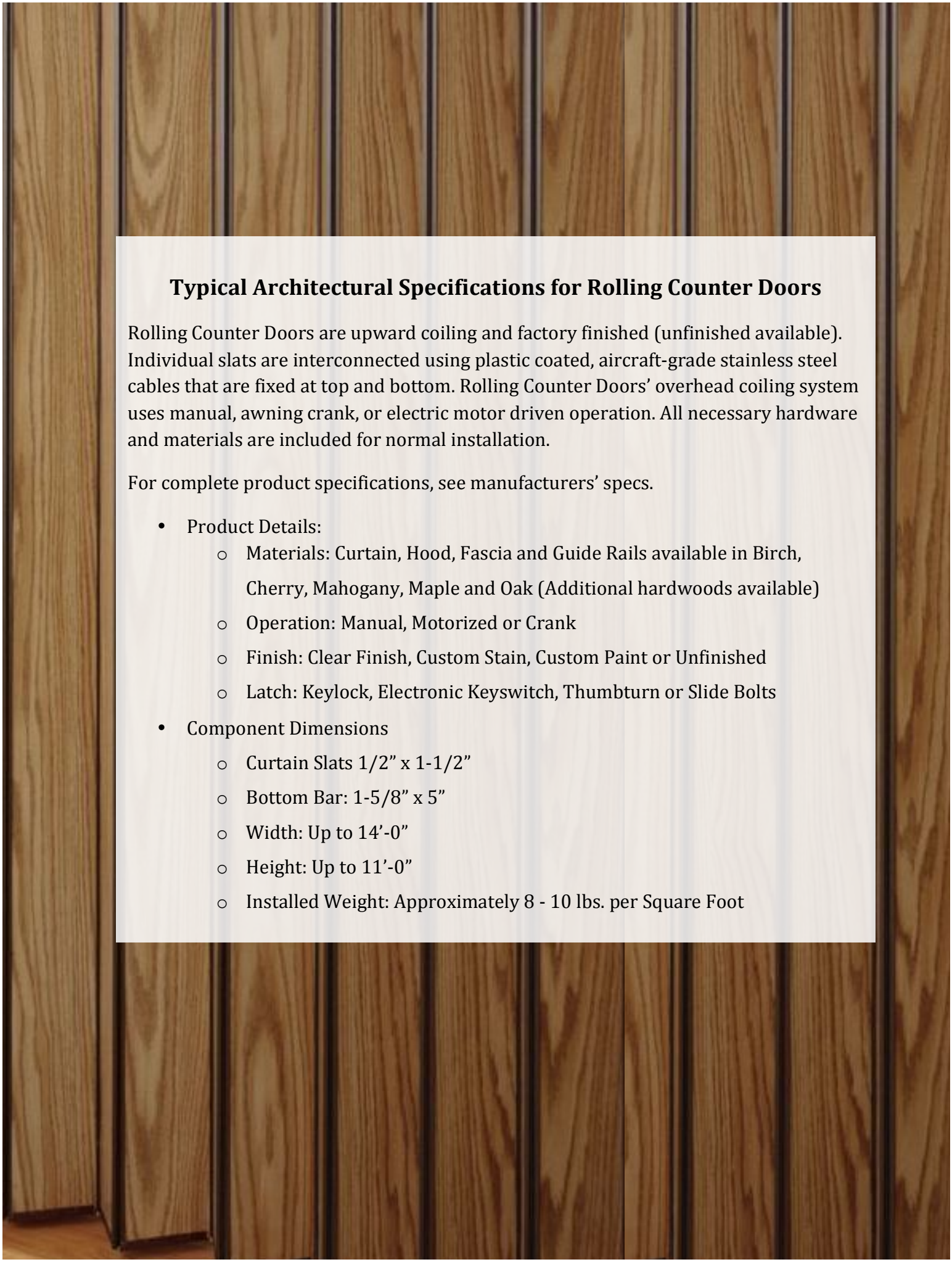
Accordion-type with panels connected continuously along the top and bottom by a steel hardware hinge system. Panel connectors shall be rigid polymer with inner steel rods throughout length. Individual hinges are riveted to those adjoining, and contain stops to maintain a uniform extended position. Doors shall be suspended by nylon wheels from aluminum overhead track. All necessary hardware shall be included for normal installation.

3. Acoustic Doors to FSTC 21

Acoustical Folding Doors (FSTC 21) shall be rigid panel, with panels connected continuously along top and bottom by steel hardware hinging. Extruded vinyl seals shall securely connect all adjoining panels, top to bottom. Continuous vinyl sweeps shall be applied to top and bottom of all doors. The door shall be suspended from aluminum extruded overhead track with a wood ceiling guard molding supplied as standard. All necessary hardware shall be included for normal installations.

4. Acoustic Doors to FSTC 33

Acoustical Folding Doors (FSTC 33) shall be rigid panel pantograph style, with panels connected continuously along top and bottom by steel hardware hinging. A system of machined/engineered gimbal clips incorporating a ball-bearing roller system shall be used to link the facing walls. This system shall maintain a uniform expanded position. Extruded vinyl seals shall securely connect all adjoining panels, top to bottom. Continuous vinyl sweeps shall be applied to both pantographs at top and bottom of all doors. An acoustical liner of inorganic material shall be applied to both interior faces in a configuration to create individual sound absorptive chambers. The door shall be suspended from aluminum extruded overhead track with a wood ceiling molding supplied as standard. All necessary hardware shall be included for normal installations.



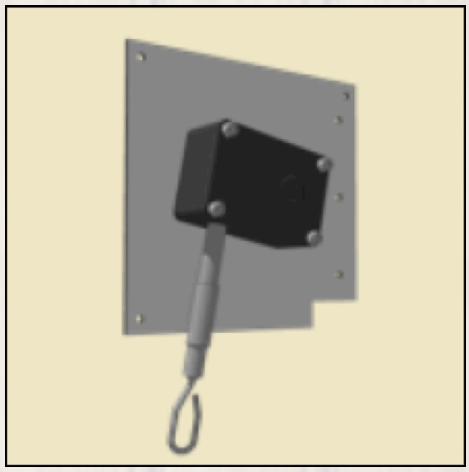
Typical Architectural Specifications for Rolling Counter Doors

Rolling Counter Doors are upward coiling and factory finished (unfinished available). Individual slats are interconnected using plastic coated, aircraft-grade stainless steel cables that are fixed at top and bottom. Rolling Counter Doors' overhead coiling system uses manual, awning crank, or electric motor driven operation. All necessary hardware and materials are included for normal installation.

For complete product specifications, see manufacturers' specs.

- Product Details:
  - Materials: Curtain, Hood, Fascia and Guide Rails available in Birch, Cherry, Mahogany, Maple and Oak (Additional hardwoods available)
  - Operation: Manual, Motorized or Crank
  - Finish: Clear Finish, Custom Stain, Custom Paint or Unfinished
  - Latch: Keylock, Electronic Keyswitch, Thumbturn or Slide Bolts
- Component Dimensions
  - Curtain Slats 1/2" x 1-1/2"
  - Bottom Bar: 1-5/8" x 5"
  - Width: Up to 14'-0"
  - Height: Up to 11'-0"
  - Installed Weight: Approximately 8 - 10 lbs. per Square Foot

Typical Product Details

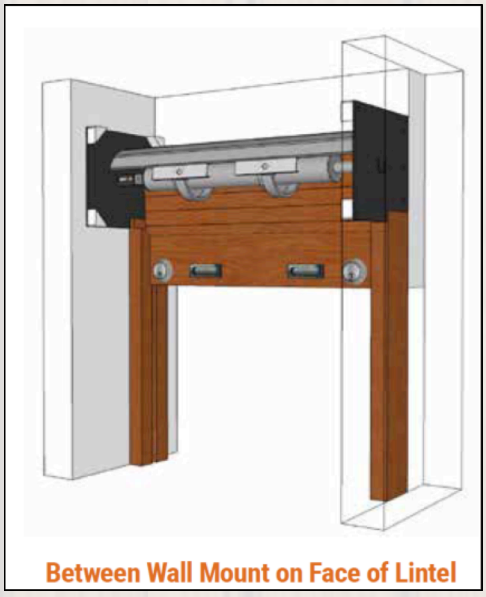


Awning-Style Mechanism provides ease of operation on large Roll-Up Doors.

Tubular Motor provides conventional automatic operation on large Roll-Up Doors.

Mounting Options

Inside Mount Under Lintel



Between Wall Mount on Face of Lintel

Between Wall Mount Without Lintel

Outside Mount