SELECTING AND INSTALLING MEGAMET SOUND CONTROL ASSEMBLIES

Sound Control door and frame assemblies are specialized openings requiring much more planning, control, and care than standard hollow metal. This document is intended as a summary of steps to take to assure a properly functioning opening. For further information consult Section 3 of HMMA 865 Guide Specifications for Sound Control Hollow Metal Doors and Frames available at www.hollowmetal.org and Section 3 of SDI 128 Guidelines for Acoustical Performance of Standard Steel Doors and Frames available at www.steeldoor.org.

Careful Architectural planning is essential. Among the issues to address are:

- Walls and rooms shall be designed as a full enclosure. Walls should be extended up to slabs above to prevent unwanted noise from passing overhead.
- Walls shall have an STC rating of at least the rating of the door and frame. Walls should be structurally adequate to support door weights in excess of 12-15 pounds per square foot.
- Walls should not be pierced by adjacent non-rated doors, HVAC ducts, pipes, or other sources of sound leakage.
- Flooring beneath the door shall be solid and level. Door bottoms may not seal properly against pliable floor finishes (like carpet).
- Hardware shall be selected to support the additional door weight. It is also recommended that BHMA Grade 1 locks and closers be specified. Avoid hardware that is stop-mounted due to potential interference with gaskets. Solid lever handles are preferable to hollow knobs.
- If the frequencies of the unwanted noise are known, select an assembly that gives the best sound transmission loss (STL) at those frequencies. Since STC (sound transmission class) is a weighted average across multiple frequencies, a lower rated assembly may have higher STL at the frequencies needed. Test reports or STC/STL graphs are available for this purpose.

In addition to the above, additional care must be taken in setting frames, hanging doors, and adjusting gaskets.

- Back-coating frames with an automotive type undercoating will help reduce metallic noise through the frame.
- DO NOT attempt to install frames with temporary steel shipping spreaders in place. Remove them and use at least 2 (preferably 3) cut-to-size wood spreaders at each frame as shown in ANSI A250.11.
- Where frames are installed before walls, assure that they are securely braced to keep installation tolerances within those in HMMA-865. Any sound blocking materials in the wall shall be extended into the frame. Fill any gaps inside frames with 6.0 to 8.0 pounds per square foot insulation. Apply caulking or similar sound sealant around perimeter of frames.
- Where frames are bolted into walls, the inside of the frame shall be filled with the same insulation as above, taking care to overlap any joints. Apply paintable caulking, neoprene strips, or similar sound sealant to frame returns and the underside of bolt heads before bolting securely in place. Check frame as it is being installed to maintain installation tolerances within HMMA-865.
- Apply caulking or similar sound sealant to the hinge reinforcing, the perimeter of hinges and lock fronts and perimeter of lock roses or escutcheons prior to installing those items. Remember, sound is like air pressure; if it can leak it will.
- Apply caulking, neoprene strips, or similar sound sealant to the underside of thresholds prior to setting. Thresholds must be installed level on a solid surface.
- Hang doors carefully due to their additional weight.
- Apply caulking, neoprene strips, or similar sound sealant to the back side of door bottoms and gaskets. Install these items after cleaning and painting. DO NOT paint surfaces of gaskets.
- Before turn-over of the rooms involved, adjust gaskets using a piece of 20 pound copier paper inserted between door and gaskets. The paper should be held firmly.