Studies have shown that persistent urban background noises—traffic, jet planes, etc.—can trigger enough stress in occupants of exposed buildings to induce health concerns. Partly for this reason, acoustical performance has become a key means for manufacturers to differentiate their products as sound-dampening features—particularly windows.

Right here in the American Architectural Manufacturers Association’s (AAMA) backyard, near O’Hare International Airport, we see a prime example. Longtime residents can recall the day when it was an accepted (albeit annoying) practice to suspend conversation when departing jets passed overhead. But that’s no longer the case.

**Proof of Concept**

Since 1995, the Chicago Department of Aviation has administered the Residential Sound Insulation Program in communities surrounding O’Hare to achieve better quality of life within homes in the area. The program has provided over $333 million in federal and airport funds to sound-insulate over 11,500 homes. Obviously, that involves in excess of 10 times that many acoustic-rated door and window units.

The process of specifying sound-dampening products requires accurate testing and rating protocols, including key measurements for things like transmission loss (TL), sound transmission class (STC) and outdoor-indoor transmission class (OITC). To enable fair and consistent measurement and comparison of those characteristics, AAMA has published its *Voluntary Specification for the Acoustical Rating of Windows, Doors and Glazed Wall Sections* (AAMA 1801-13), a procedure that references the use of sound transmission loss test data obtained per ASTM E1425, *Standard Practice for Determining the Acoustical Performance of Exterior Windows and Doors*, to calculate STC and OITC ratings. The test specimen size, prescribed test methods and sequence of tests is also in accordance with ASTM E1425, along with air infiltration, operating force and latching force, as integral elements of acoustical performance (which AAMA 1801 also requires concurrent testing for). In the process, reports conforming to AAMA 1801 include the transmission loss data across the entire sound spectrum for each product. OITC ratings are expressed as described in ASTM 1332, *Standard Classification Rating for Outdoor-Indoor Sound Attenuation*.

**Weighing In**

As always, changes are afoot and ASTM E90 and E1425 are undergoing review. Consequently, a task group has been established to examine the potential need for any updates. The Acoustic Rating Task Group has formed an additional body, to consider rules and develop criteria for the substitution of glass and framing elements in an acoustic-rated window. Those interested in participating in either group can visit www.aamanet.org/joinus to learn more.

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