



# TECHNICAL BULLETIN 121

## Subject: Sound Attenuation in Acrylic Impregnated Foam Expansion Joint Seals

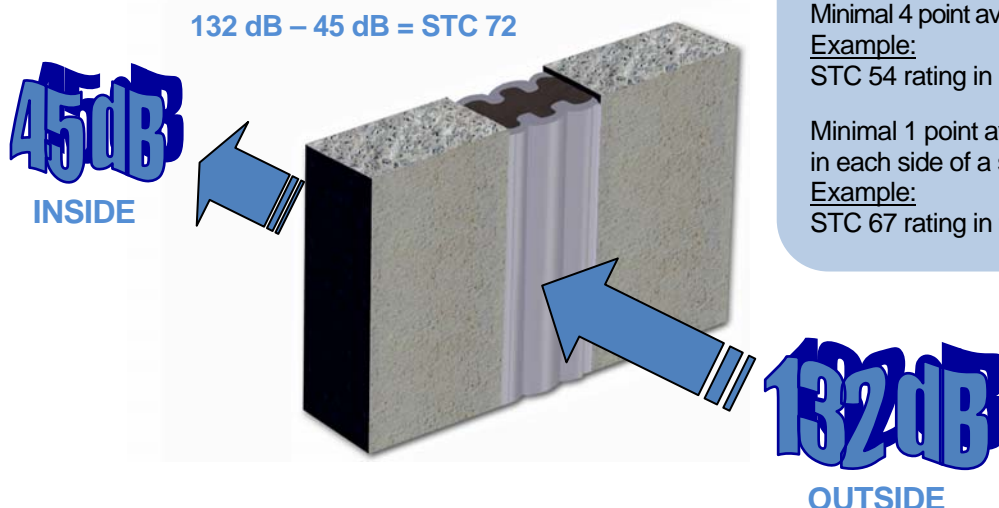
In the USA, sound transmission loss values from the ASTM E90 test are used to calculate the STC (Sound Transmission Class) and OITC (Outdoor Indoor Transmission Class) ratings in accordance with ASTM International Classification E413 and ASTM E1332 respectively. Outside the USA, the Sound Reduction Index (SRI) ISO index or its related indices are used.

ASTM E90 test method covers the laboratory measurement (as an integer rating) of airborne sound transmission loss of building partitions such as walls of all kinds, operable partitions, floor-ceiling assemblies, doors, windows, roofs, panels, and other space-dividing elements.

**The goal of any expansion joint seal is to provide a STC or OITC rating equal to that of the surrounding construction by suppressing sound transfer through the structural expansion joint opening.**

### STC What Sounds Can Be Heard

- 25 Normal speech can be understood quite easily and distinctly through, walls
- 30 Loud speech can be understood fairly well; normal speech heard but not understood
- 35 Loud speech audible, but not intelligible
- 40 Onset of 'privacy'
- 42 Loud speech audible as a murmur
- 45 Loud speech not audible; 90 percent statistical population not annoyed
- 50 Very loud sounds (e.g. musical instruments or a stereo) can be faintly heard; 99 percent of population not annoyed
- 60+ Superior soundproofing: most sounds inaudible



MM Systems Impregnated Foam Seals (EIC, EIF, EIH, EIV, and SIF Series) Meet the following guidelines:

Minimal 4 point average loss for single side applications.

Example:

STC 54 rating in one side of a STC 58 wall

Minimal 1 point average loss for 2 seals when installed in each side of a single wall.

Example:

STC 67 rating in two sides of a STC 68 wall