# Acoustic treatment of speaker post

3M provides an Acoustic treatment kit that can make a major improvement in reducing sound problems associated with noise, echo, reverberation and isolation issues.

Let’s take a closer look…..



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# 3M™ Acoustic Kit

- Used for new or retrofit installation of communication posts
- Readily be used with various housing designs
- One kit contains enough material to accommodate a typical microphone and speaker system.
- It can be used for a microphone and speaker installed either in a single housing or in separate housings.

**System Components:**

- • 6 each, 2" x 10" 3M™ Vibration Control Tape
- • 2 each, 1" x 8" x 27" TUFCOTE® TBK Faced Foam
- • 2 each, 2" x 12" x 30" Thinsulate™ Acoustic Insulation



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# Acoustical Treatment

- Benefits and advantages of
  - Thinsulate Acoustic Insulation:
    - Exceptional sound absorption
    - Reduced number of acoustic components
    - Lightweight and Water-resistant
    - Compressible and flexible
    - Easily attached
  - 3M Vibration Control Tape
    - Can effectively dampen with as little as 10% surface coverage
  - 3M TUFCOTE TBK Faced Foam
    - Superior acoustic properties
    - Tough, durable
    - Non-glare finish with Matte black surface
    - Puncture resistant - Protects against soil, fluids



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# Installation Guidelines — Separate Housings

Component installation is the same for both the microphone and the speaker housings.

**1. Ensure that the inside or the housing is clean and dry.**

**2. Install the 3M™ Vibration Control Tape to the inside of the top and side walls of the housing (fig. 1).**

a. Using a pair of scissors, cut one piece of tape approximately 1" less than the length of the top wall. Cut two pieces so they are each approximately 1" less than the side walls.
b. Peel and discard the release liner from the back of the tape.
c. Center each piece of tape on the inside of the top and side walls of the housing, as shown in the illustration.

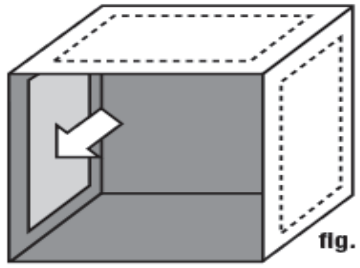
fig. 1

**3. Install the TUFCOTE® TBK Faced Foam to the inside of the housing and over the vibration control tape (fig. 2).**

a. Check the fit of the foam to the inside of the housing. The foam can either be formed into an upside-down “u” shape to fit against the inside of the top and side walls as one piece, or cut into individual pieces to fit the inside of each wall.
b. Peel and discard the release liner from the back of the faced foam.
c. Align the center of the foam with the centerline of the top wall and then work toward the edges until the foam is centered on the inside of the top and side walls of the cavity.
d. When positioned correctly, press the foam firmly to secure it in place.

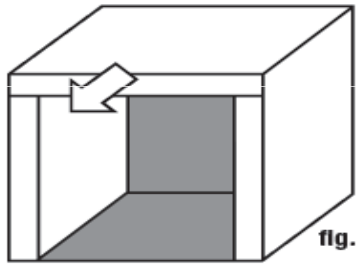
fig. 2

**4. Install the Thinsulate™ Acoustic Insulation (fig. 3).**

a. Loosely line the housing with the acoustic insulation. For the best appearance, position the black side of the insulation toward the outside of the housing.
b. If there is excess insulation, overlap it against the inside of the first layer.

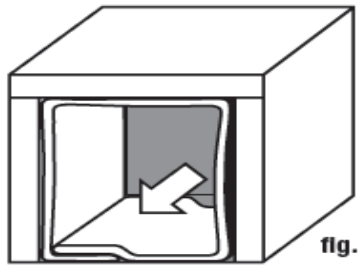
fig. 3



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# Installation Guidelines — Single Housing

Microphone and speaker are contained within a single housing. Component installation is the same for both microphone and the speaker. The microphone and speaker must be separated from each other by foam.

**2. Install the 3M™ Vibration Control Tape to the inside of the top and side walls of the housing (fig.4).**

a. Using a pair of scissors, cut one piece of tape to be approximately 1" less than the length of the inside of the top wall. The four pieces of tape used for the side walls can be used as is from the kit and do not require trimming.

b. Peel and discard the release liner from the back of the tape.

c. Center a piece of tape on the inside of the top of the housing. Locate the position of the microphone (speaker) and center a piece of tape on the inner wall of the housing centered with the microphone. Repeat for the opposite wall. Repeat this step for the speaker.

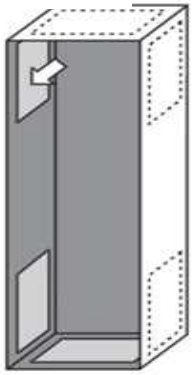

fig. 4

**3. Install the TUFCOTE® TBK Faced Foam to the inside of the housing and over the vibration control tape (fig. 5).**

a. *Standard method:*

- Cut one piece of foam to be positioned between the speaker and microphone. In order for the foam to fit securely, cut it slightly larger than the inner dimensions of the housing. It should fit snugly between the walls of the housing without buckling.
- Check the fit of the faced foam to the inside of the housing, in the areas adjacent to the microphone and the speaker. Cut into individual pieces to fit the inside of each wall of the housing as shown in the illustration.

*Alternative method:*

- Form one piece of insulation into a “u” shape and position it in the upper pan of the housing.
- Form the second piece of insulation into an upside-down “u” shape and position it in the lower pan of the housing.

b. Peel and discard the release liner from the back of the faced foam.

c. Align the center of the foam with the centerline of the top wall of the cavity and then work toward the edges until the foam is centered on the inside of the top and side walls of the cavity.

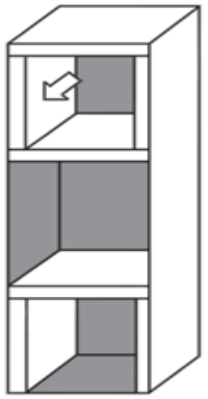

fig. 5



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# 3M™ Acoustic Kit

Additional illustrations of 3M speaker and microphone installation using the 3M Acoustic Kit and product instructions as a guideline for installation.

**Fig.1**
Install 3M Vibration tape to metal surfaces.

**Fig.2**
Install 3M foam and acoustic insulation.

**Fig.3**
Solder all connections.

**Fig.4**
Secure connections with connectors.

**Fig.5**
Install speaker with same procedure.


**Fig.6**
Solder all connections.

**Fig.7**

**Fig.8**



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