

## Installation Instruction for Corridor Dampers:

These Installation instructions apply to tunnel corridor dampers installed in 1 hour, 1.5 hour and 3 hour rated drywall fire separations. Specific requirements in these instructions are mandatory. These instructions meet the requirements of UL 555 and UL 555S.

### 1. Clearance required between Damper Sleeve & Opening:

Damper and sleeve assemblies expand during periods of intense heat. Therefore it is essential that the openings be larger than the damper and sleeve assembly to allow for expansion. Clearance required between the outside of the damper/sleeve assembly and the opening in the fire separation is a minimum clearance of 1/4". This is a total clearance and does not need to be equally spaced around the damper/sleeve assembly.

### 2. Sleeve Length:

The damper must be installed in a sleeve. The sleeve must be long enough to permit proper support of the damper and offset drive shaft and also permit appropriate securing of perimeter angles. The minimum sleeve length is 16". (A 16" sleeve should be appropriate for separations up to and including 6" in depth when the sleeve is flush with the underside of the fire separation. For separation deeper, add one inch of sleeve length for each additional inch, over 6", of separation depth). If the sleeve is mounted below the separation, the distance below the separation should be added to the sleeve length.

### 3. Securing the Damper to the Sleeve:

Dampers must be secured to the sleeve with No. 10 sheet metal screws, 1/4" bolts and nuts, welding (1/2" long minimum), 3/16" diameter pop rivets, or 3/16" diameter toggle lock, 6" on center, 2" maximum from the corners. The damper must be installed in the sleeve so that the backside (non-drive shaft side) is a minimum of 1/2" from the edge of the sleeve. This permits clearance to allow for caulking around the edge of the damper frame should it be required.

### 4. Securing the Damper/Sleeve Assembly to the Separation Opening:

The damper/sleeve assembly should be installed in the separation opening using retaining angles on both sides of the opening. The retaining angles should be made from a minimum of 16 gauge steel. The bottom angle should be 8" long and be 3/4" by 1-1/2" - see details on drawing below. The fasteners should be located as indicated on drawing below. The bottom angle should be located such that the center of the angle lines up with the center of the damper sleeve on each side. The perimeter angles on the top of the assembly should be the same length as the damper width or height and should have one leg 3/4" long and the other leg must be long enough to allow the fasteners to be attached to the sleeve and NOT interfere or damage the damper or the internal linkage so as to interfere with the closing capabilities of the damper. To determine the height of the perimeter angle leg, dimension A on drawing below, follow the instructions below:

**A. Damper/Sleeve Assembly is Mounted Flush with the Underside of the Fire Separation** - Take the distance from the back edge of the damper frame to the edge of the damper sleeve, dimension B, (see drawing below), add 5-1/2" and subtract the depth of the fire separation, dimension C. Note: the minimum height of the perimeter angle is 1-1/2". Therefore, for a damper installed 1" from the edge of the damper sleeve and in a 4" deep fire separation, the height of the upper perimeter leg should be 2-1/2".

**B. Damper/Sleeve Assembly is Mounted Below the Underside of the Fire Separation** - Take the distance from the back edge of the damper frame to the edge of the damper sleeve, dimension B, (see drawing below), subtract the distance that the sleeve protrudes below the fire separation, add 5-1/2" and subtract the depth of the fire separation, dimension C. **Note:** the minimum height of the perimeter angle must be 1-1/2". Therefore, for a damper installed 1" from the edge of the damper sleeve, protruding 1" below a 4" deep fire separation, the height of the upper perimeter leg should be 1-1/2". Perimeter angles should be attached to the sleeve using No. 10 sheet metal screws, 1/4" bolts and nuts, welding (1/2" long minimum), 3/16" diameter pop rivets, or 3/16" diameter toggle lock, 6" on center, 2" maximum from the corners.

