



Coffee Break Training - Fire Protection Series

Building Construction: Combination Smoke and Fire Damper Actuators

No. FP-2010-25 June 22, 2010

Learning Objective: The student shall be able to identify installation limitations for combination smoke and fire damper actuators.

Combination fire/smoke dampers are designed and installed to perform the function of both fire and smoke dampers.

Fire dampers are installed in an air distribution system, and are intended to close automatically upon detection of heat by the release of a fusible link, to interrupt migratory air flow, and to restrict the passage of flame. They are installed where ducts penetrate fire-rated assemblies such as fire barriers or fire partitions.

Smoke dampers are installed in an air distribution system to control the movement of smoke. They must be controlled by an automatic alarm initiating device and also are permitted to be positioned manually from a firefighting command station when they are part of a building's smoke control system. They are installed where air handling ducts penetrate smoke barriers required by the building code.

Smoke dampers and combination fire and smoke dampers are equipped with actuators (electric motors or pneumatic controls) to remotely operate the dampers. These actuators are installed at the factory as part of a complete assembly.

The airflow and pressure ratings marked on the dampers are dependent upon the particular combination of damper type, actuator type, and linkages between the damper blades and actuator as a single unit. As a result, alterations in the field, adding separate actuators during installation at the job site, or substituting different actuators are not covered within the product listing.

However, this does not necessarily prevent authorized actuator replacement in the field. If a damper fails during installation, its regular service life, testing, or maintenance, it may be replaced when done in accordance with the damper manufacturer's normal field servicing program.

For additional information, refer to National Fire Protection Association (NFPA) 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*, Underwriters Laboratories (UL) *Standard for Fire Dampers*, UL 555, or the *Standard for Smoke Dampers*, UL 555S.



There is a combination smoke/fire damper behind this access panel. The actuator is nearest the wall at the upper right-hand corner of the picture.



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