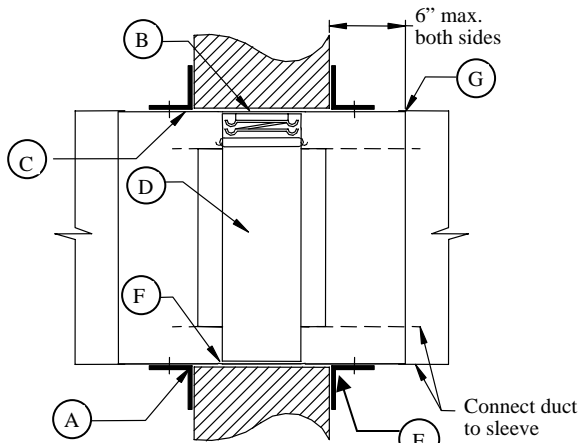
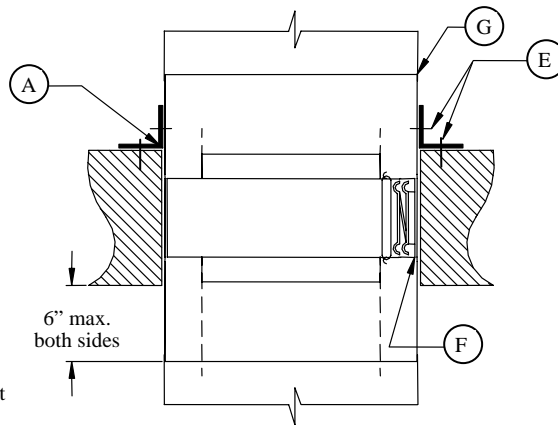


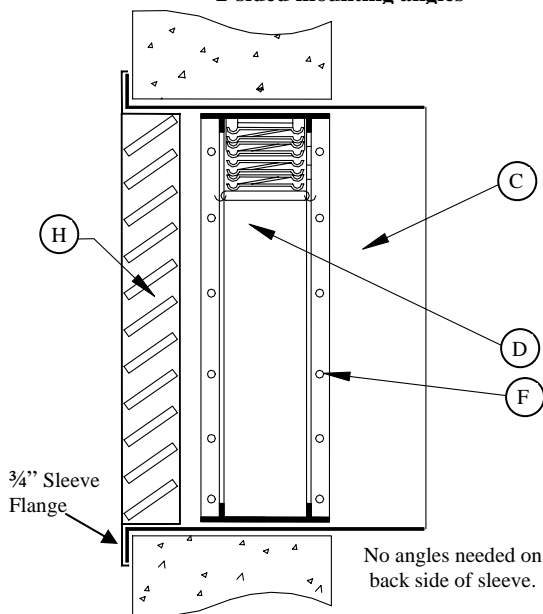
FIRE DAMPER MASONRY / CONCRETE OR METAL STUD WALL INSTALLATION INSTRUCTIONS UL FILE # R 7861 IN ACCORDANCE WITH UL 555



**Vertical/Horizontal Mount
2-sided mounting angles**



**Vertical/Horizontal Mount
1-sided mounting angle**



Grille/Louver or shaft mount

Typical installation details

- (A) Retaining Angles: Minimum 1 1/2" x 1 1/2" x 0.054 (18ga)
Retaining angles must lap structural opening 1" minimum and cover corners of openings.
- (B) Clearance: 1/8" inch per linear foot both dimensions (see Note 1 below)
- (C) Steel sleeve: See sleeve schedule
- (D) Approved Fire Damper (curtain or blade type)
Damper must be in the wall.
- (E) Secure retaining angles 8" on centers with:
- ◆ 1/2" long welds or
 - ◆ 1/4" Bolts and nuts, or
 - ◆ No. 10 steel screws, or
 - ◆ Minimum 1/16" steel rivets)
 - ◆ For 1-sided only secure angle to wall/floor & sleeve
 - ◆ For 2-sided only secure angle to sleeve only
 - ◆ For concrete, use anchors and # 10 self-tapping screws

- (F) Secure damper to sleeve 8" on centers with:
- ◆ 1/2" long Welds, or
 - ◆ 1/4" bolts and nuts in holes provided, or
 - ◆ No. 10 steel screws, or
 - ◆ Minimum 3/16" steel rivets
- (G) Connect ducts to sleeve with approved or equal duct collar connections/ break-away connections.
- (H) Grille to be supplied by others.

Notes:

Fire damper sleeve clearance within wall opening.

1. Clearance requirements between sleeve and wall or floor shall be minimum of 1/8 per foot of width and height of sleeve. The maximum size of opening shall be 2" larger in width or height than the allowed minimum size. The sleeve may rest on the bottom of the opening, and need to be centered. (Fractional dimensions shall be taken as the next largest whole foot.)

Example: A 30-inch x 24-inch fire damper sleeve is installed in a wall opening. The opening shall be 30-3/8 inches wide (1/8 inch x 3 feet) by 24-1/4 inches high (1/8 inch x 2 feet).

Minimum of 1/4" gap on width and height.

2. The sleeve is retained in the wall opening by the use of steel retaining angles (A). These must over-lap the edge of the framing by a minimum of one (1) inch over and beyond all the retaining angle would be 1-3/8 inches (good practice calls for an additional safety factor by making the angle in this case 1-1/2 inches wide).
3. The dimensions required for the opening shall be those remaining after the opening has been framed and fire resistive materials provided were required. The fire resistive materials shall be equal to the requirements for fire resistive materials used in the constructed wall so that a continuous rating exists at the wall penetration. The contractor erecting the wall is responsible for providing the fire resistive material and correct size openings to achieve the required clearance.
4. Dampers must be installed in accordance with these instructions to meet the requirements of UL 555. The installation of the damper and all duct connections to the damper sleeve shall conform to the latest editions of NFPA 90A, Standard for the installation of Air Conditioning and Ventilating Systems, and the SMACNA Fire, Smoke and Radiation damper installation guide, and U.L. Classifications R7861.

FRAMING OPENINGS FOR FIRE DAMPER IN METAL, WOOD AND CONCRETE WALLS

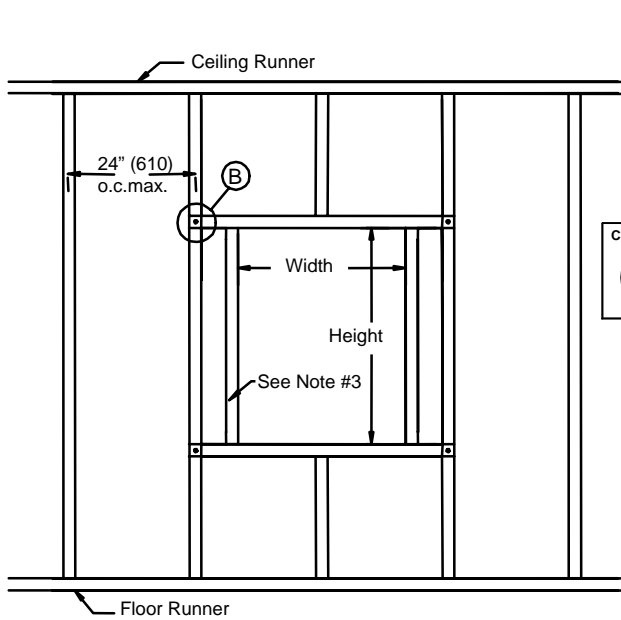
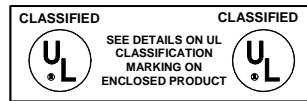


Figure - 1 (Metal Studs)



- NOTES:**
1. Single stud can be used on dampers with 36" x 36" (914 x 914) opening or smaller. (Fig-1.)
 2. A single mounting angles may be used, please refer to single retaining angles installation instruction under separate sheet.
 3. Framing studs next to the damper are not required to be full length if the spacing is less than the maximum stud spacing as shown in (Fig - 1.)
 4. Gypsum panels screwed to all studs and runner flanges shall be 12" (305) oc. maximum surrounding opening.
 5. All metal or wood studs shall be covered with gypsum wallboard.
 6. Opening to be minimum 1/8" (3) per ft. larger than overall size of assembly. (min. 1/4" (6) larger than assembly.)
 7. Double vertical studs are required for dampers larger than 36" x 36" (Fig - 2.)

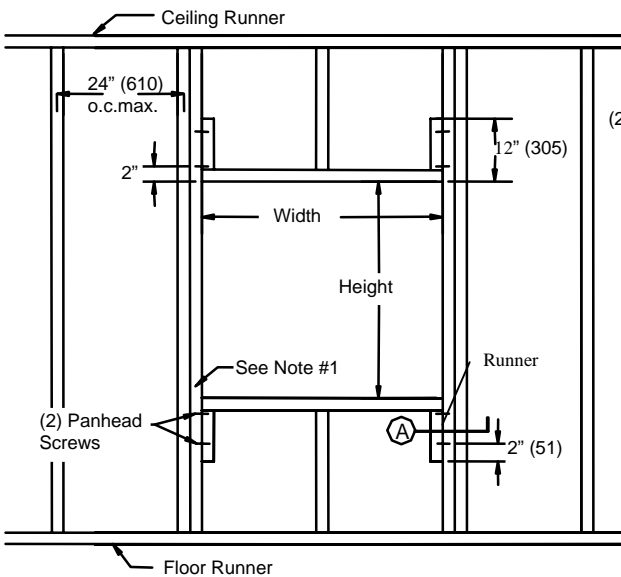
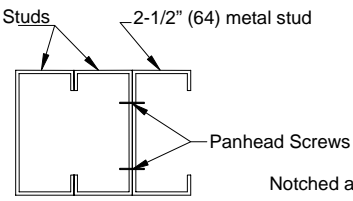
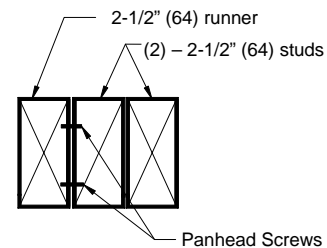


Figure - 2 (Wood Studs)

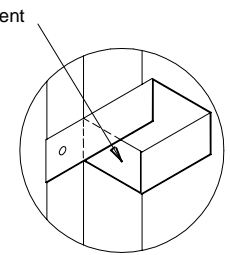
(2) - 2-1/2" (64) Studs



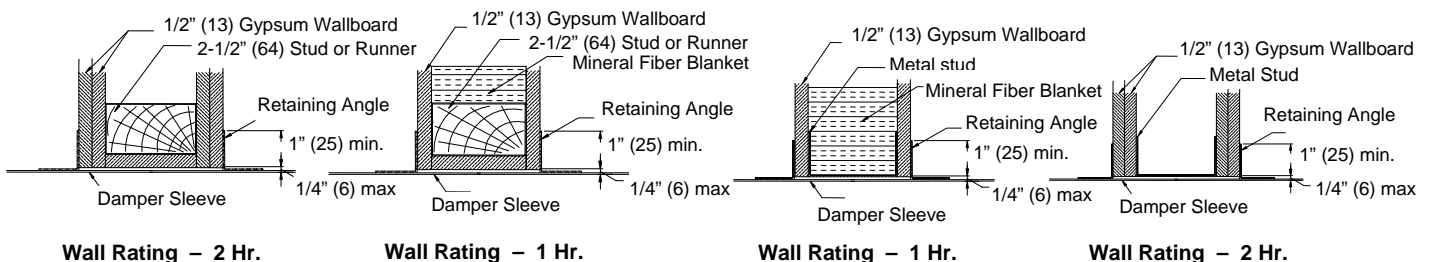
SECTION - A



SECTION - A



DETAIL - B



Wall Rating - 2 Hr.

Wall Rating - 1 Hr.

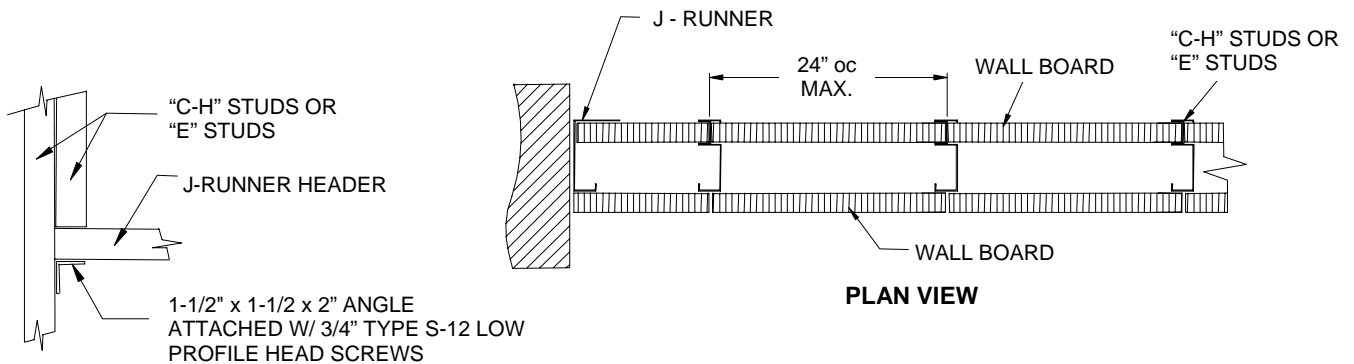
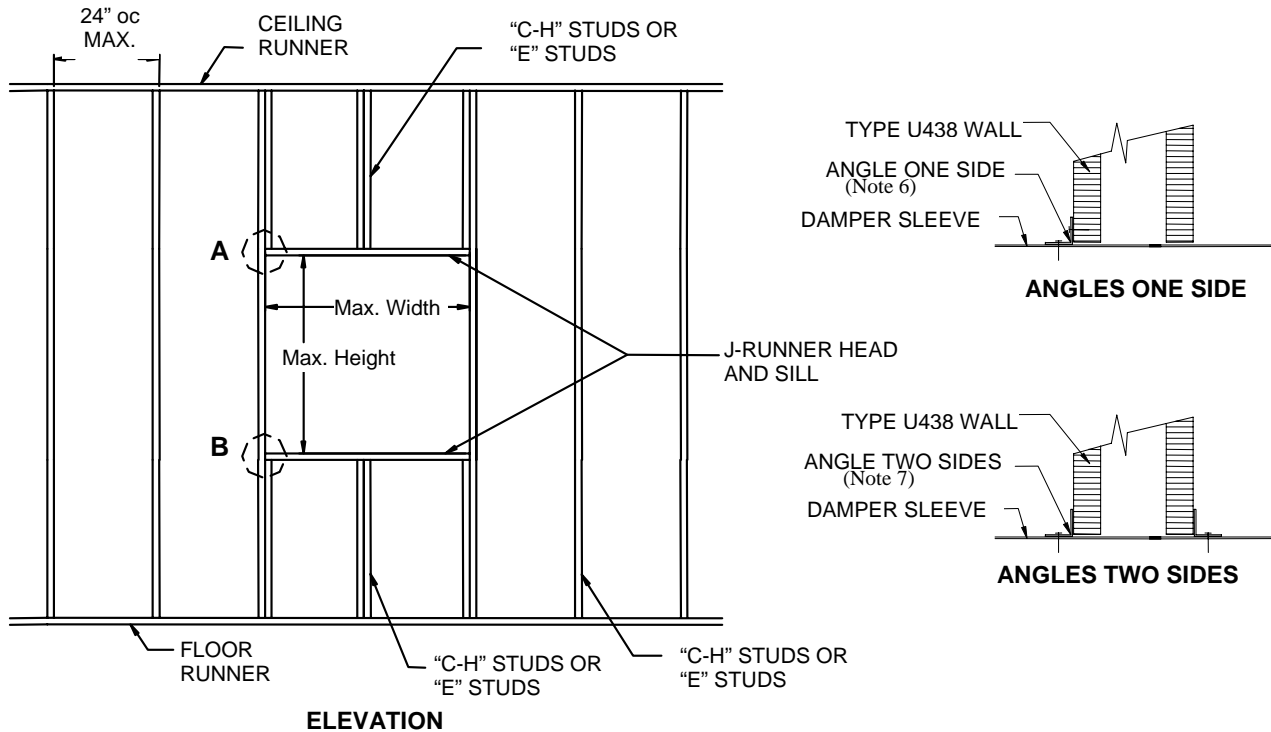
Wall Rating - 1 Hr.

Wall Rating - 2 Hr.

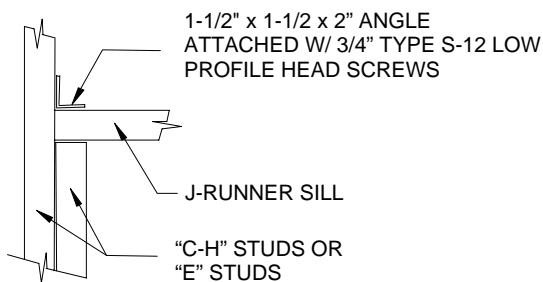
WOOD STUD FRAMING

METAL STUD FRAMING

SUPPLEMENT FOR CURTAIN FIRE DAMPERS INSTALLED IN U438 FIRE RESISTANT WALL



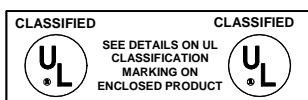
HEADER - "A"



SILL - "B"

NOTES:

1. The wall opening for two angle installations shall be minimum of 1/8" per foot larger than the overall size of damper assembly. Maximum opening shall not exceed 2" plus 1/8" per foot of the damper size. For one-angle installations the minimum opening shall be 1/8" per foot and no more than 1" total larger than the overall size of damper assembly.
2. Sleeve gauge minimum equal to gauge to duct assembly.
3. Mounting angles minimum 1-1/2" x 1-1/2" x 18 ga. galvanized steel fastened with #10 bolts and screws, 1/2" long welds or 3/16" rivets.
4. Maximum spacing fasteners 6", but not more than 3" from any end.
5. Up to 21" wide - minimum 2 connection per side. 21" and above - minimum 3-connection top and bottom.
6. 1-sided mounting angles to be fastened to wall & sleeve with #10 screws.
7. 2-sided mounting angles to be fastened to sleeve only with #10 screws.





FIRE DAMPERS

This operation and maintenance instructions should not serve as a standard basis for all damper products and other manufacturers, but for Safeair-Dowco damper products.

All back-draft and fire dampers require routine maintenance procedures in order for dampers to operate as intended in any case in which fire and smoke may occur within the building. Periodic testing of all parts linked to the damper is essential to maintaining a working damper. Check that all actuators, blades, fans, etc. are functioning properly and that nothing is preventing blades or controls from operating. Be sure to check that nothing is blocking or hindering air way passage. According to NFPA 80, periodic testing of all years begin 1 year after installation date and followed every 4 years proceeding.

In any case where the damper is difficult to remove and/or impossible to test due to size and accessibility Safeair-Dowco recommends a complete examination for damper to be square and plumb and blade to have no obstructions. Check also that nothing hinders or prevents full operation of blades and airflow.

MAINTENANCE:

1. Check interior and exterior sides of dampers for any major defects or material disintegration, rust, wear, corrosion, or any signs of damage that may prevent proper functioning of damper.
 - a. In serious damage contact Safeair-Dowco <http://safeair-dowco.com/contact.php>
2. Make sure all items linked to damper are in good condition, such as closure spring and fusible links. If part is inoperable, repair or replace part.
3. Damper blades, Shafts, bearings, pivot points etc. should be cleaned and lubricated with a light spray oil. Any and all access should be removed.
 - a. *Use silicone based lubricant and not petroleum based lubricant.*
 - b. *Dampers with non-mettalic or carbon sleeve bearings do not require lubrication*
4. Blades should be visually checked through their complete cycle for defects, binding or misalignment. Check blades and see that they are fully closed when operated.
 - a. *Damper should be operated under normal airflow conditions.*
5. Move blade package back to its open position and replace the fusible link.
6. If in any case actuators, blades or linkage is not properly functioning, contact Safe-Air Dowco at our given inquiry page located above to be further assisted.

TESTING PROCEDURE:

1. With the fusible link intact, heat or remove the link with a temperate heat source. Allow blade package to drop.
 - a. **(Be sure to keep hands out of path of blades and blade package)**
2. After testing procedure check that all blades are completely closed.
 - a. *Damper should be operated under normal airflow conditions.*
3. Record date of testing procedure and label on a sheet.
4. Repeat testing procedure on a set periodic routine.