

*Important:*

The following instructions refer to mounting the BSD-PW fire damper in plasterboard (Gib) wall applications. **AS1682.2-1990 requires fire dampers to be installed in the same method as tested.** These installation details are derived from the test.

The Australian & NZ Building Codes require fire dampers to comply with AS 1682-1990 Part 1 & 2, and AS1530.4-1990 as the Acceptable solution. The BSD-PW complies with the Australian & NZ Building Codes as an Alternative solution (incorporating AS1682 as a guideline). Verification as follows: **BRANZ Test No. FP2376 results confirm the plasterboard mounting system for the BSD-PW will satisfy AS1530.4 -1990 for 120 minutes.**

BSD-C fire dampers have been tested for installation in masonry walls & floors overseas and have achieved a fire rating of 2 hours. Refer to Ravenscroft's for further detail. Separate installation instructions are available for concrete/masonry wall options. Do not use the BSD-PW for ceilings without consultation with Ravenscroft's.

### Wall & Hole Preparation Instructions:

- The BSD-PW fire damper unit mounts into a wall cavity hole and is secured with **approved** fasteners only. **Supporting framework within the wall cavity is not required.** The BSD-PW can also be fastened to both the wall framing and plasterboard. This is recommended where possible to insure a more robust installation.
- The 400 BSD-PW have mounting flanges sized to overlap a 600 mm stud spacing. The damper would then screw directly into the studs with intermediate fasteners into plasterboard.
- When checking the location of the duct penetration, check that there is **adequate space** for the flanges and where the framing is. Refer to the following table for damper, hole and flange sizes.

BSD-PW Size	Hole Diameter	Square Flange Size	BSD-PW Size	Hole Diameter	Square Flange Size
125	165	225	250	290	350
150	190	250	300	340	410
175	215	275	400	440	650
200	240	300			

- Use the radius guide provided to mark from the hole centre outwards to the hole diameter. Also mark the diameter of flange corner fastener holes. This is important to ensure the damper can be located in the centre of the hole with a concentric expansion space all around.
- Once the damper centre location is found, use a **long** drill to mark the centre of **both** sides of the wall simultaneously. This damper flange system will not accommodate any misalignment. It is therefore very important that the **centre pilot holes are drilled perpendicular to the wall.**
- Holes must be **cut accurately** with a jig saw or a key hole saw. The hole sizes listed include suitable clearance for expansion. Holes of excessive size will not comply with Standards as the flange may not overlap the hole sufficiently.
- Remove the loose flange from the unit. Insert the damper through the hole and fit the flange over the spigot protruding from the other side. Mark the flange location and rivet holes on the damper body.
- To **prevent damage** to the wall board, remove the damper from the wall to drill rivet holes.
- It is much easier and cleaner to **check** the holes are correct by refitting the damper to the wall at this stage before the fire mastic sealant is applied.
- You are now ready to apply fire mastic sealant and fix the damper to the wall.

## Final Sealing & Installation Detail:

- To prevent fire entering the wall cavity the fire mastic must form a continuous seal by filling the circular cavity between the damper and wall board edge. Apply two beads to the damper prior to installation and two beads on the loose flange side once the damper is in the wall.
- Apply a 15 mm diameter bead to the damper body at the base of the flange. When the damper is installed this first sealant bead can not be observed for continuity of seal. It is therefore important to apply a further 6 mm diameter bead around the flange 20 mm from the first bead.
- Insert the damper into the hole and gently press while the sealant moves to fill the cavities. Secure the damper with the fasteners ensuring the damper is located with a concentric clearance space all around.
- On the other side of the wall, fill the cavity between the damper body and wall board hole with fire mastic. Apply the second 6 mm bead to the wall 20 mm out from the first bead.
- Fit the loose flange and rivet in place, followed by the wallboard fasteners. Note only **steel** rivets are suitable. **Do not use aluminium rivets** as they can melt in a fire and release the damper from the wall. **Appropriate steel rivets are provided in the kitset.**

## Approved Fastener Selection

Approved fastener type: **HiLo 11/16 S-point screw** (Head style not important). **The kitset includes screws.**

1. The fastener length will need to be sized to accommodate the wall board thickness used for each application.
2. **Fastener Length  $\geq$  1.0 mm (sheetmetal flange) + wallboard thickness + Penetration**
3. Penetrations: Wooden Studs 20 mm, Steel Studs 6 mm, Plasterboard 4 mm

## Approved Mastic Sealants

Approved fire rated mastic sealants used during tests include:

Fosroc Flamex 1

Promat Promaseal-A

Pyropanel Multiflex

## Ductwork Connections

- When connecting rigid duct to BSD-PW, **a slip joint or flexible connector must be used** so the ductwork will easily break away from the damper in advent of the ductwork collapsing or deforming in a fire or earthquake.
- **Rigid ductwork must be seismically restrained.** Otherwise **any** movement in the ducts could apply force to the damper damaging the wall board and destroy the wall fire rating.
- Refer to AS1682.2.5.1.6 noting connections to ductwork shall have a fusion temperature below 700°C. This is a condensed extract from the standard which needs to be read in its entirety to ensure full compliance. Additional requirements can also be found in AS1668.1-1998.

## Access Panels

Access panels are not required as the damper blade handle and the release mechanism can be serviced from outside the damper.

## Damper Operation & Thermal Fuse

The function of the damper must always be checked **before and after installation**. After installation, set the damper turning the blade to the desired position with the aid of the indicator handle. Lock in position by screwing in the thermal fuse until the blade is just held in position. **Do not use tools on the fuse, finger pressure is adequate.**

The fuse can be reset after a release. The fuse can also be replaced if it will not hold the damper open. The fuse can be replaced by simply unscrewing. The standard release temperature for fuses is 74°C. Different release temperature fuses are also available to order: 50°C, 100°C and special temperatures on request.

## Balancing Damper

The BSD range of dampers are approved for use as a balancing damper.