

Firedampers for Beginners



Firedampers for Beginners

The following is intended to give you a very brief education on the installation of fire dampers and things to look for, or to avoid doing if you either come across them on site, or have to install one.

Simple Rule No 1 If it doesn't look right, it probably isn't

As the rule say, if it doesn't look right is probably wrong. If the installation isn't neat and tidy, if there are pieces obviously missing, or you can see gaps and holes around the damper, then yes its not going to be right.

If it looks right, is neat and tidy and you can see an access panel and a label then there is high chance that it will be ok, hopefully this brief training will give you a better understanding of what to look for.

Simple Rule No 2 All new fire damper installations have to be signed off – certified

All new fire damper needs to be certified. All new fire dampers need to be numbered, marked up on a drawings and installation label fitted to, adjacent damper. Certification letter to be issued listing all dampers covered.

Our letter should note that the certification is for only new fire dampers installed by Ryan Wilks are included and that existing dampers are not included in our certification.

Simple Rule No 3 If we connect to, or modify and existing fire damper with our works then we must re-certify this firedamper

Any such dampers need to be re-inspected, made good if necessary ^{***} and included on our certification letter. If there are issues preventing us being able to re-certify this damper (i.e wall construction issues) then this needs to be brought to the attention of the client for direction, and if not rectified this should be clearly noted in our certification letter.

Simple Rule No 4 All Fire dampers on a site need to be checked every 5 years as a requirement for annual certifications.

As part of annual building fire certification 20% of all fire dampers are required to be checked and recorded. The principle is that the next year another 20% of dampers will be checked so that after 5 years of inspection all dampers have been inspected.

The same 20% of dampers are not to be tested year after year because they are the easiest to check and or do comply where others wont. We have developed checksheets and stickers for fire damper maintenance inspections.

Simple Rule No 5 You are not qualified to certify any fire dampers

At the end of each project we are required to provide a number of different certifications for various sections of the works, firedampers will be one of these parts. You are not deemed competent to sign off on fire dampers, so if asked to do so DON'T. This is where you need to ask for help, but you need to ensure that you have enough site records (photos and subbie sign offs) to enable Ryan Wilks to complete certification.

Firedampers for Beginners

Ok, the simple rules are understood so now where do we start ?

In the same way they we need to fire rate cables going through fire rated walls so does ductwork and other services passing through the wall need to be fire rated. Unfortunately its not as simple as filling the surrounding gap with Promat.

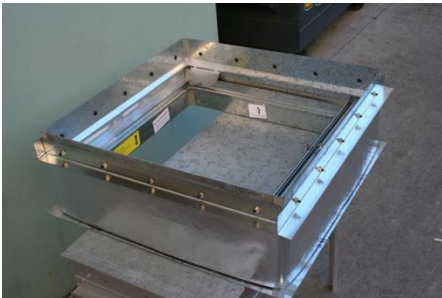
So what is a fire damper ? Simply as the name suggests it's a fire protection device, a tested metal sleeve mechanical device that will stop a fire from travelling through a fire rated wall or slab – when installed correctly, as per the manufactures test report and in a suitable constructed and rated wall, slab.

Where are they used ? Used in air conditioning and ventilation systems.

Are they all the same ? No, there are 2 types of dampers, either mechanical or intumescent.

Mechanical dampers dependant upon the application they can be “drop type” curtain (most common), single or multi blade . There are different fire dampers for horizontal or vertical installation. Standard dampers have duct to duct connections and flat ends, special dampers are required with flanged ends for insertion into walls where grilles or louvres are fitted.

Intumescent dampers have no mechanical devices and are activated by heat. They have size limitations and have different installation requirements that mechanical (metal) dampers



Firedampers for Beginners

So we now know there are 2 types and what they look like, so;

Does one size fit all ? No. Each fire damper must be sized to suit the duct or opening into which it is going to be installed, and include for minimum installation clearances as governed by Australian Standards. The installation details will also differ on the type of damper to be installed and where it is to be installed and into what.

In simple terms the fire damper size is the same size as the duct that it is connecting to, and the wall opening needs to be constructed to suit the fire dampers size plus expansion (general rule is duct + 30 mm around).

If the fire damper is going into an existing formed opening in brickwork or concrete then the damper needs to be ordered the size of the opening minus 30 mm.

Is there anything else I need to know before I can order a damper ? Yes.

- Fire dampers can come with different fire ratings, the most common being 2 hr. The fire rating of the fire damper must match that of the surround wall, slab. – this is very important !
- In addition you will need to nominate which way the air is flowing, up, down , left or right.
- Lastly any special requirements need to be noted, this can either be one by way of notes on the schedule, or sometimes it is a lot easier to include a sketch or diagram.
- When ordering dampers request a copy of Suppliers Installation Details and Test Report to be supplied with the dampers.



So Where do I get one? Sorry but no you can't buy one off the shelf. Given that fire dampers are a fire safety device their manufacture, testing , installation and on going maintenance is covered by Australian Standards and as such limits who can build them. The major manufacturers that we would use on a regular basis are Bullock Manufacturing, Riley Air Control, Airgrilles and Holyoake.

So how long to make one ? In general Airgrilles and Holyoake will provide dampers in 3-4 weeks. Bullock and Riley in general will be 2-3 weeks, but these are generally more expensive.

Firedampers for Beginners

Below is an example of typical fire damper schedule for a project.

If in doubt about ordering fire dampers then ask !

		Unit 23, 28 Vore Street Silverwater NSW 2128 Tel: 9748 1211 Fax: 9748 8916						
FIRE DAMPER SCHEDULE								
Project:		sample project				Project No:		Rev A
Damper No	Location	Type Vertical = wall Horiz = Slab	Wall/Slab Thickness	Fire Damper Size (Duct Size)	Type refer legend	Air Flow	Notes, Comments	
1	Grd Floor Plantroom, Supply 1	Vertical	110	1000 x 600	D/D	→		
2	Grd Floor Plantroom, Supply 2	Vertical	110	1000 x 700	D/D	→		
3	Gr Floor Plant, Return Air 1	Vertical	110	1000 x 500	D/D	←		
4	Gr Floor Plant, Return Air 1	Vertical	110	1000 x 1000	G/D	←	Flanged entry, RA45 return air grille	
5	Gr Floor Plant, Return Air 2	Vertical	110	1200 x 600	D/D	←		
6	Grd Plantroom, TEF -1	Horizontal	250	300 x 300	D/D	Up	Access from above damper	
7	Grd Plantroom EF -1	Horizontal	250	300 x 300	D/D	Up	Access from above damper	
8	Grd Floor Plantroom, SAF 2	Horizontal	250	500 x 300	D/D	Down	Access from above damper	
9	Basement, TEF 1	Vertical	200	300 x 300	D/D	→		
10	Basement, EF 1	Vertical	200	300 x 300	D/D	→		
11	Grd Floor Loading dock	Vertical	250	1200 x 600	G/D	→	Flanged entry, to suit OAL 50 intake louvre	
12	Grd Floor Spill air	Vertical	250	1200 x 1000	D/G	←	Flanged discharge to suit OAL 50 Louvre	
13				x				
14				x				
15				x				
16				x				
17				x				
18				x				
19				x				
20				x				
Manufacturer / Supplier: Notes: All fire dampers to be supplied with fire wrap fitted to damper case and loose flanges, min 50 x 50 mm							Rev A Date 1/01/2015 Page 1 of 1	
Legend D/D = Duct to duct, D/G = Duct to grille, air flow duct thru grille, G/D = Grille to duct, airflow through grille to duct, S = Special, details or sketch required Slab (horizontal mounted) dampers, air flow up or down to be nominated								

Installation of Firedampers for Beginners

So we have the fire dampers on site, now what?

Who installs them ? The sheetmetal subbie installs the fire dampers. The installer must be deemed competent by knowledge and or training that the fire damper installation meets the requirements of AS1668.1.2012, AS 1682 Part 1 & 2 . 1991 and for maintenance of fire dampers AS1851.6

Are any special installation requirements that you should be aware of ? Yes

- There are a number of simple installation checks that you can visually carry out on site.
- is there an access panel fitted and is suitable size
- is the access panel clearly accessible, access is not blocked
- fixing flanges are fitted flat to the wall no gaps
- there are no obvious gaps around the fire damper
- there are no other services running through the same hole,
- Other services running though the wall maintain minimum clearances to fire dampers, cables no closer than 50 mm, pipes no closer than 200 mm.
- Is there a break away joint (RW Standard we want to see plastic nuts, bolts and clips)
- the fire damper labelled
- Slab mounted fire dampers duct above and below the damper is insulated for minimum 1000mm

These are basic simple things to be aware of. More detailed checklist items are covered in following slides

General note; Co-ordination of other services: It is important to remember when installing any services on site to co-ordinate them with the existing services, structure. If there is an access panel located a duct, or in a ceiling, then this is there for a reason. Running any new services (i.e cable tray or busduct) across any access panel defeats the purpose of the access panel, therefore access panels are to be avoided at all times.

If you have no option but to block off an access panel then approval must be obtained from the client, and alternate access panel provided.

Fire Dampers for Beginners

Ok, now for the biggy. You will note on the installation record in the last column there is reference to the construction of the wall, structure into which the fire damper is mounted, "*Wall construction as per manufacture's instructions, certification received*".

So why is this important ? The wall construction, and more importantly the construction of the actual opening in the wall are key component of any fire damper installation, and certification. Once installed the damper is then part of the fire integrity of the wall. When your signing off on the fire damper installation, you are signing off (certifying) that the wall is also complete.

This is a contentious issue , a little like who came first, the chicken or the egg. How can we responsible for the wall if it isn't built right if we didn't build it??? Well the consensus is that we are, so as such we need to take all measures to ensure that the walls are correct, and if not identify where they are non compliant.

We can do this by;

- Obtaining wall construction certification by the installer. The installer of the wall must certify that the wall , and the openings have been constructed to a specific suppliers details and the nominated fire rating level.
- Observing and inspecting the construction of the wall and opening. it is important that when ever possible that photos are taken during the construction of the wall, the forming and lining of the openings and as the damper is being installed, these can be used later on to support our final certification. (note any photos, records will need to be referenced with the fire damper number)
- Identification of and any non compliance issues

Obviously this is going to be a lot easier for new wall installations as opposed to cutting and fitting of dampers into existing walls We are lucky that on most of our projects we will be responsible for the installation of the walls, and as such will have control over our contractors to ensure that the construction is correct.

Existing walls, in this instance we need to identify and confirm the existing wall construction. There may be no existing records available and the only way you will find out is when you cut the hole in the wall and inspect the existing gypock sheets . The new hole opening must be trimmed and lined as per manufacture's details to maintain the fire rating integrity of the wall. All openings must be trimmed.

Installation of Fire dampers for Beginners – Wall Construction

So openings in brick or concrete walls are pretty straight forward, they need to be complete and clear, no missing or loose bricks. Gyprock walls are generally where problems arise.

Where do I find the fire rating of the wall? The construction of the wall, and its fire rating capacity (FRL) are indicated on the project fire safety schedule and in design documents on the architectural plans.

Education bit: All fire rated elements are identified by their FRL, generally noted as FRL --- / 120 / 30 . This is usually noted on the architectural drawings. The important number here is the second number, the 120 is length of time in minutes that the damper must maintain its integrity (not fail) , in this case 120 min = 2 hrs.

Fire dampers must have the same rating as the wall that they are being installed into.

FRL = Fire Resistance Level and comprises 3 components; Structural adequacy / Integrity / Insulation

Structural adequacy – ability to maintain stability & load bearing capacity to test AS 1530.4 (in minutes ie 120 = 2 hr)

Integrity – ability to resist the passage of flames and hot gases to test 1530.4 (again in minutes)

Insulation – ability to maintain a surface temperature , not exposed to a furnace below the limits of as 1530.4

FRL numbers for building elements are detailed in BCA Spec C1, Table 3

The wall must be constructed to the suit the, and must be constructed as per the manufacturer/suppliers installation details to meet that standard. (i.e Boral 2 hour gyprock wall must be constructed as per details in the “Red Book”. In general this will be 2 layers of fire rated sheet over a metal stud.)

Any openings in this wall must maintain the same fire rating capacity (FRL) of the wall, so the internal sections of the opening must also be trimmed and lined. The clear internal trimmed size of the hole must be equal to the size of the fire damper plus 30 mm around.

Examples of typical construction details are shown on next slide, remember that walls constructed from CSR products must be constructed to CSR “Redbook” standard, similarly walls constructed from Boral product must be installed to Boral standard. In all instances the internal faces of the openings must be lined.

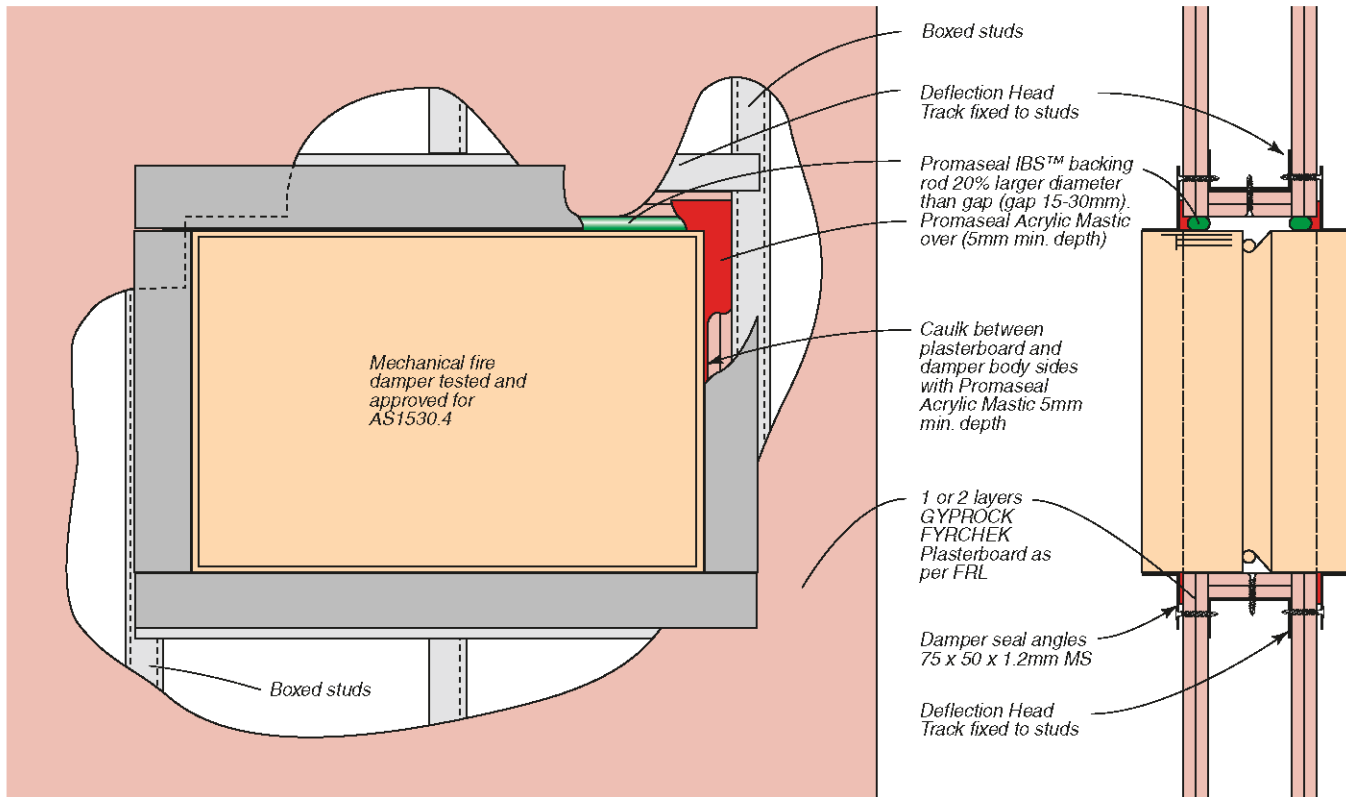
Fire dampers for Beginners – CSR Wall & Opening Construction

Fire Damper Penetrations in Walls

Detail FIG Z212 is suitable for dampers rated up to FRL –/120/–. Duct weight must not be supported by the wall. For full specifications and installation details, refer to the appropriate damper manufacturer.

FIG Z212: INSTALLATION DETAIL FOR FIRE DAMPER IN STUD WALL SYSTEM

Appraisal: PROMAT FCO 2106



Fire Dampers for Beginners – Boral Wall Construction

2 layers 16mm Boral Plasterboard Firestop
or Wet Area Firestop (System SS2)
2 layers 13mm Boral Plasterboard Firestop
or Wet Area Firestop (System SS3)

CS stud framing

50mm wide x 16mm Boral Plasterboard
Firestop or Wet Area Firestop
strip, laminated around damper
opening if using partition System SS3

27mm IBS rod in 16mm gap
covered with 5mm min of
fire-grade sealant

Damper framing angle

Fire-grade sealant
behind framing angle

Deflection head track support.
Use CS stud section for
200mm x 400mm damper

Bullocks Fire Damper
type 4900 style P
900mm H x 600mm W

2 layers 16mm Boral Plasterboard Firestop
or Wet Area Firestop (System SS2)
2 layers 13mm Boral Plasterboard Firestop
or Wet Area Firestop (System SS3)

22mm IBS rod in 12mm gap
covered with 5mm min of
fire grade sealant

Damper body

**Variation on treatment to top
of 200mm H x 400mm W Bullocks
Damper type 5650 style F**

**Typical fire damper
in FRL 120/120/120 steel stud wall**

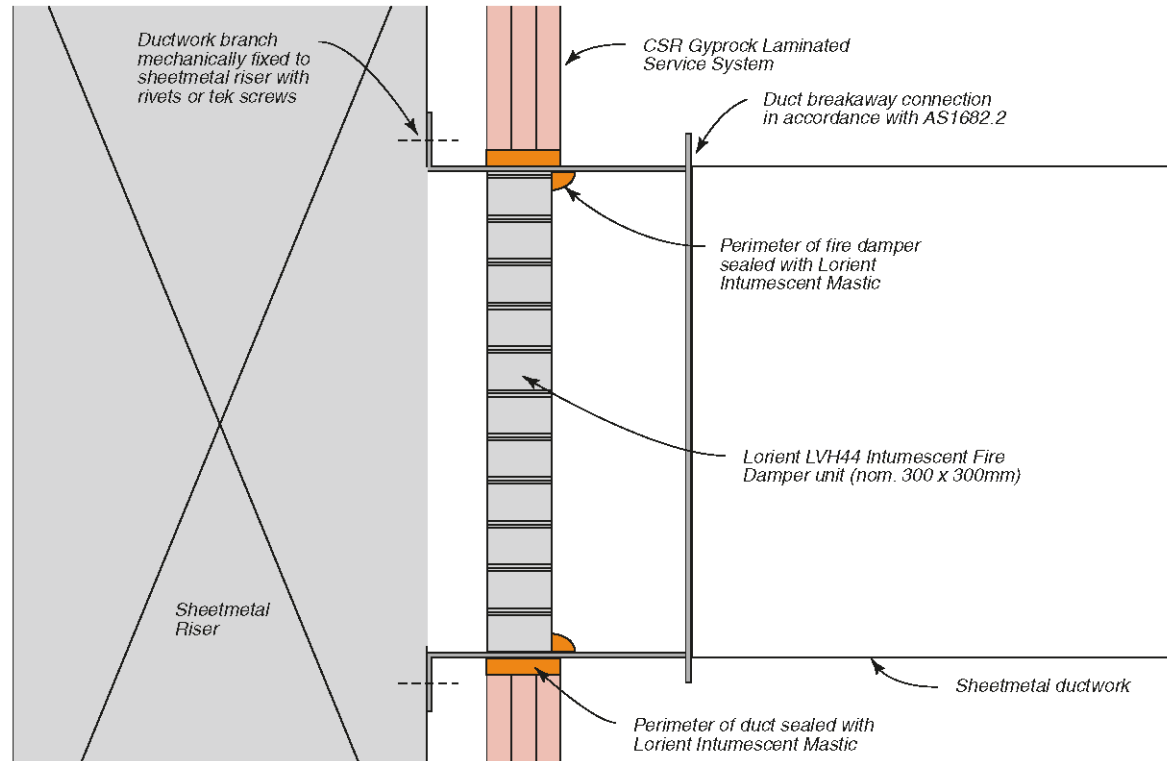
Fire-Rated Steel Stud Partition Systems

Firedampers for Beginners – Typical Intumescent Damper Install

The installation details for Intumescent type dampers are different to metal mechanical dampers. For details you will need to refer to the manufacturers installation instructions. In general these requirements are less than for mechanical dampers

FIG Z213: INSTALLATION DETAIL FOR LORIENT LVH44 FIRE DAMPER

FRL -/120/- . Appraisal: FCO 1869/2276 LORIENT



The Red Book™

Firedampers for Beginners

What about other fire rated wall constructions, such as Hebel, Speedpanel or Durawall, what do we do ?

The same principles apply no matter what the wall construction type, material. The installer must provide certification that the construction has been as per the manufacturers installation details for that particular product, installation type. You should ask for a copy of the construction details before works proceeds and do some checking of your own, check the suppliers web site to check its correct,, google search that particular installation.

If a contractor wants to use a product like hebel when gyprock is documented, obtain approval for the change from the client, and preferably certifier.

What if there is a problem with wall construction? If we identify problems with the wall constructions, i.e. should be 2 hour but is only 1 hour, we need to notify our client and ask for direction.

If you know that the hole, or wall is not constructed properly you can not sign the damper off.

If you thinks that the wall or opening construction is not correct, you can not sign it off.

If we proceed with the installation of the damper (after instruction from the client) then we clearly need to identify on our checksheets the relevant non compliant issues and then include this in our final certification as well. On Telstra project this would involve issuing of F20

All we can do is our best by obtaining wall construction certificate by the installer, or person cutting the hole, be vigilant in our checking of their works and this will be minimise the likelihood of any problems.

When do we install the fire damper ? The fire damper is installed after the wall is completed, as per the manufactures details.

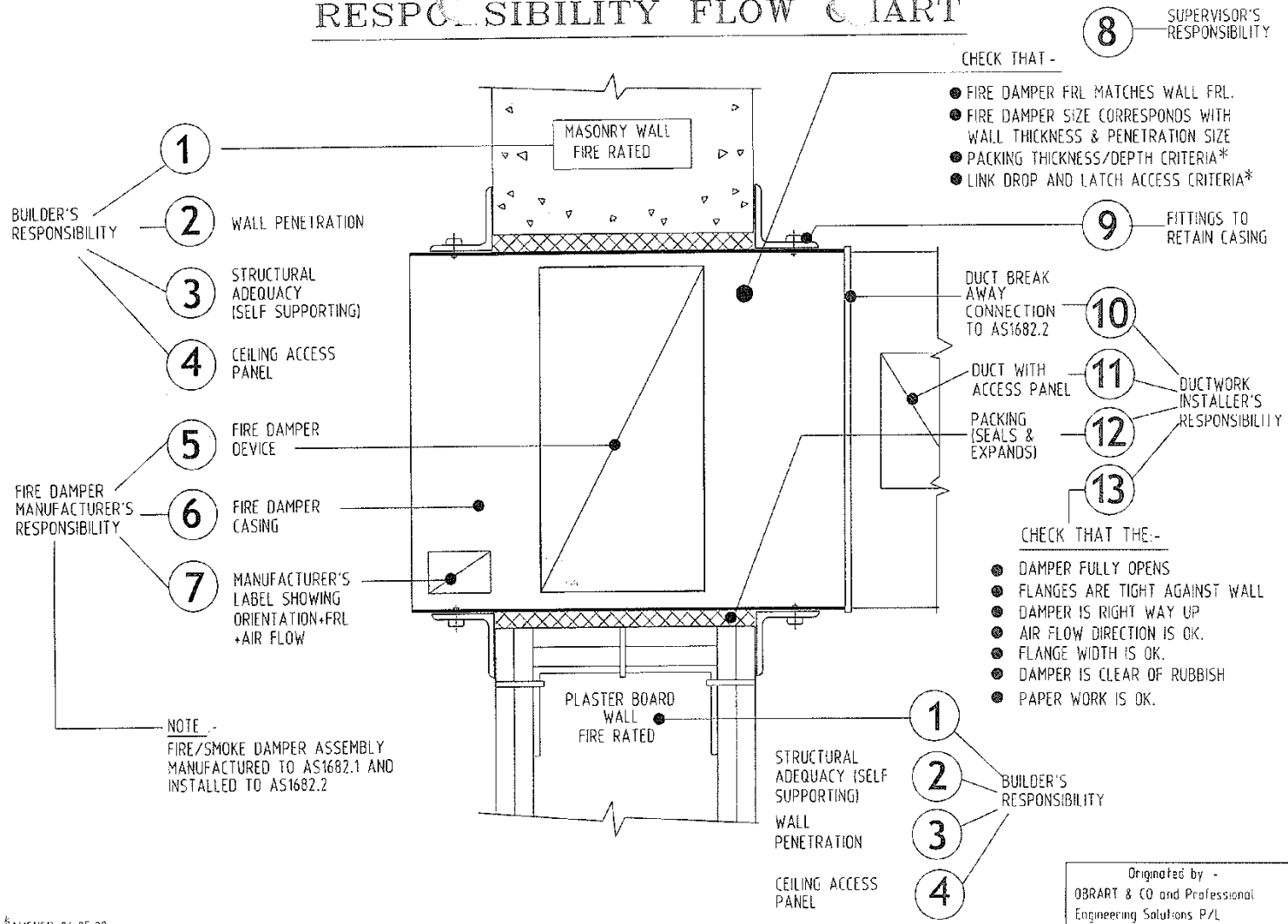
Who signs Firedampers off ? The person signing off on the fire damper is usually the person who installed the damper, as again the person must be deemed competent by training or knowledge to meet the requirements of AS1668 Part 1.2012 & AS1682 Parts 1 & 2. 1991.qualified The installed must sign off on the installation of each damper, however as they are working for us , and we are providing the final sign off and certification of the installation then we have a responsibility to check the installation as well. If some instances you may want to get a third party specialist (such as Bowers) to attend site and carry out inspection and sign off (this will cost \$\$\$\$\$, depending on number to be signed off)

Firedampers for Beginners

Why you don't certify firedamper installation.

Below is sketch which indicates responsibilities for the various aspects of a fire damper installation, the obligations of the manufacturer, the responsibilities of the builder and of the installer

RESPONSIBILITY FLOW CHART

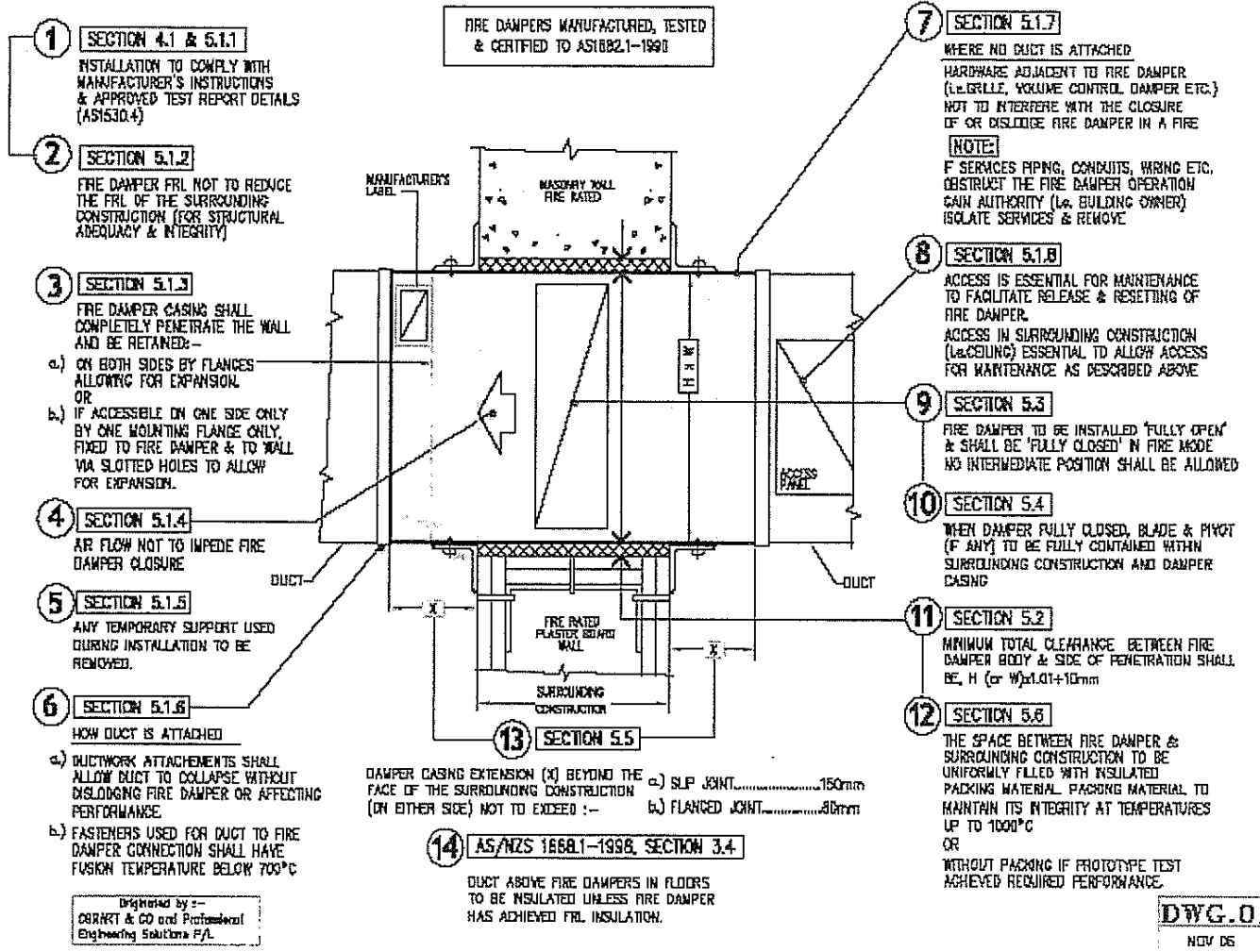


Firedampers for Beginners

Why you don't certify fire damper installation.

Below is sketch which outlines 14 items that need to be checked off for EACH for damper installation to satisfy the requirements for AS1668.2. These requirements form the general basis of our Fire Damper Installation Inspection Sheet, Form RW-COMM-15.

AS1668.2-1990 SECTION-5 INSTALLATION REQUIREMENT CHECK LIST



The quality is not great but you will get the idea. This is from the AMCA fire damper course but you get the idea

Firedampers for Beginners

Fire Damper installation Records & Details.

Labelling of Firedampers

Once satisfied with the installation of fire dampers (receipt of builders wall sign off and installation contractor certification letter and completed Installation Checklist (Form RW-COMM-015) each fire damper needs to be labelled.



Fire Damper Installation

FD Ref: _____

This sticker certifies that this fire damper has been checked and is deemed to meet the requirements for Fire Dampers installation as outlined in AS 1688 Part 1, 2012, AS1682 Part 1 & 2 – 1991.

I confirm that I am competent by knowledge and training to sign off this installation.

Name: _____

Company: _____

Signature: _____ Date: _____

Minimum fire dampers to be re-inspected every 5 years.

An example of Ryan Wilks fire damper installation label is opposite.

In general the label is fitted under the firedamper on the wall, near the access panel. Labels are not fitted to access panel doors, fire damper angles or any part that can be removed

Where fire dampers are located behind false ceilings then an additional smaller traffolyte label should be fitted to the ceiling grid under, or the access panel under the damper to indicate that is located above , i.e FD 2 behind

After fitting labels to each firedamper you should then take a photo of the final installation. This photo can then be used, along with the progressive installation photos to support our certification now, and to minimise likelihood of any future certification issues.

In the unlikely event that there is a dispute in one or a few years time when someone has removed flanges and not put them back, moved a wall or installed new services as part of some future fitout these will be a record that at the time of handover the installation was complete. Don't think this doesn't happen, there is 7 year warranty on building works

Firedampers for Beginners

Project Certification; Certification of Fire Dampers

The sign off of fire dampers forms part of the essential fire safety measures for any building, be it the original occupation certificate or annual fire certification.

Fire dampers are governed by requirements of BCA and Australian Standards.

As we have indicated in this presentation you as an individual are not deemed competent to sign off on the fire dampers but at the end of the project we Ryan Wilks must provide this certification.

This Ryan Wilks certification will be possible by the receipt of the manufacturers sign off and test report, the by wall constructors certification, the installation contractors certification, the completion of installation checklist, the photo records of each damper and the marked up as installed drawings.

In addition any non compliances must be identified in the certification, and why as well as any correspondence, instructions from the client of certifier with respect to non compliance or instructions to modify or alter works must be included.

It is important that all of these records are obtained, and that they are filed for easy reference (ie. Photo will need labels).

Our Ryan Wilks certification will reference these these third party sign offs and include them as attachments.

The certification requirements are generally outlined in the Project Fire Safety Schedule, or DA/BA. For Telstra projects this should be included on F02, but these are rarely issued and we usually be provided at the end of the project on Telstra F04 or F08. These documents will nominate specific clauses of BCA and AS/NZS to be referenced in final certification

Ryan Wilks Certification will include reference to all applicable design drawings and certification to applicable BCA clauses and Australian Standards, who completed those works and copies of each installers certification and supporting documents.

Suppliers Copies of manufacturers sign off and copy of test certificate and report for each type of fire damper supplied. This will include reference to manufactured as per AS

Builder; Certification letter referencing the design drawings and specification, advice that the structures have been constructed to these documents and relevant FRL ratings and that construction is as per the manufactures instructions

Sheetmetal Contractor (Installer): Will provide installation certificate letter which includes reference to applicable standards& BCA clauses. It should also include the experience of the person who is certifying the works and reference that they competent by knowledge and training to provide sign off of this installation.

Our final certification document will be quiet large. Examples of recent certifications are located in Project Proforma folder under Firedampers, link is <P:\Projects\5. Project Proforma\Fire Dampers\Certification Examples>.

Many of these principles will be applicable to other certification and sign offs such as cable penetrations

Firedampers for Beginners

BCA & Australian Standard Sign offs required in general are

- AS1682.1 (1990) Firedampers specification
- AS 1682.2 (1990) Firedamper Installation
- AS 1851.6 (1997) Maintenance of smoke and fire control features of HVAC systems
- AS4072.1 (2005) Service Penetrations
- AS1530.4 (2005) Testing Fire Resistance elements of building composition.
- AS4254 (1995) Ductwork for Air handling systems in buildings.

The following are examples of our general sign off. The notes in blue are typical clarifications that we have made to suit the particular site;

The mechanical installation complies with the current general requirements of,

- Mechanical Ventilation comply with Part J5 of the BCA.
- The use of ventilation and air-conditioning in buildings-Fire & Smoke control in compartment buildings complies with Australian Standard 1668.1. (a/c Plant continues to operate in general firetrip, manual override switch provided at the FIP as per design)
- The use of Ventilation and air-conditioning in buildings – Mechanical ventilation in buildings complies with Australian Standard 1668.2. (as outlined the design documents)
- Mechanical Ventilation for acceptable indoor air quality complies with Australian Standard AS 1668.2 (as outlined in design documents)
- Mechanical Ductwork comply with Australian Standard AS 1668.2.based on the above noted design documentation. The mechanical ductwork also complies with the requirements of BCA C1.10.5 Air Handling Ductwork and fire hazard properties of set out is AS 4254
- Installation complies with Part J3.5 of the BCA (2011) – Sealing (new a/c unit fitted with shut off dampers. The new mechanical plant installation is sealed. The exchange is an existing building, we can not provide certification for existing building or mechanical services and openings)
- Fire dampers have been installed in accordance with requirements of AS 1682.1 (1998) and as per suppliers installation instructions
- Installation complies with Part J8.2 of the BCA (2011) – Access for Maintenance

The fire stopping installation complies with the current requirements of:

- Australian Standard AS 1530.4 – 2005, Test procedures for fire resistance of elements used in building construction (compliance with this Standard of materials used).
- Australian Standard AS 4072.1 – 2005, Components for the protection of openings in fire-resistant separating elements – Service penetrations and control joints.
- Australian Standard AS 1682. Part 1 & Part 2 – 1990, Floors adequately Fire Dampered & Fire Collared with a proprietary system, in accordance with Clauses C3.13 and C3.15
- Australian Standard AS 1668.1 – 1998, Construction and installation criteria for mechanical fire dampers
- BCA 2011/12, Specification C3.15 Specification C3.15 (Penetrations of Walls, Floors and Ceilings by Services)

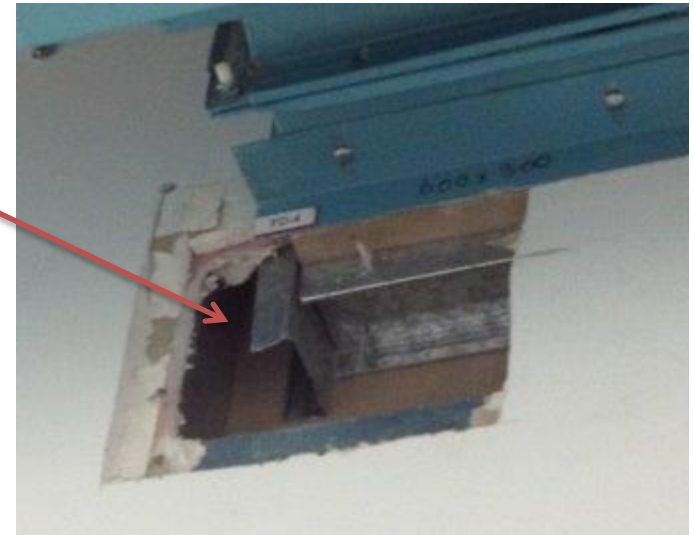
Firedampers for Beginners – what not to do

Examples found on some of our recent projects (no not our problems);



Looks ok on outside investigation revealed that whilst penetration is trimmed the side stud does not continue down to bottom track, non compliance

Bottom angle not fixed to wall, side angle is not twice as wide as the gap. Also found no packing on fire damper.



No angles on damper on inside face, couldn't have been as label is fixed to damper case



Hope there is access on the other side, certainly no access to this fire damper, and no access panels on the other two ducts above



Firedampers for Beginners – what not to do

Examples of bad installations, or issues that won't allow dampers to operate correctly in the event of a fire



Pretty safe to say that these cables and brackets would not have been in the original installation.

Firedampers for Beginners – what we should be doing

The following photos indicate the construction of new fire rated wall and opening for fire dampers at Newtown TE



Intermediate stud in
due to width of opening

Studs in, floor to slab on sides
of opening,

bottom trimmers in and 2
layers of 16 mm on inside
face of opening

2 layers on front and inside
face of opening, final sheet
to fitted to inside face



We have control over the wall
construction so it should be right,
we have photos of the construction
to reduce likelihood of any future
disputes.

Firedampers for Beginners – what we should be doing

As mentioned we need to observe and document the fire damper installation process, this will provide valuable records for any future disputes. A few examples are shown below;



Insulation material fitted



Bottom sill repaired prior to install



Insulation material fitted, angles being bolted on flush to wall



Dampers sections bolted together, edge of penetration repaired, angles being bolted on, twice the gap



Angles on, hard to wall

Firedampers for Beginners – Break away joints

Ryan Wilks recently completed fire damper repair at Kent Street.

The photo opposite shows the most typical repair that is required, the break away joint. The fire damper has to be installed and fixed into the wall, it becomes part of the integrity of wall.

In a fire situation the ductwork is meant to break away, fall free of the damper so as to not put any strain on the damper and pull the damper out of the wall



You can see here there is an unpainted duct sleeve. This end of the duct is slipped under the fire damper flanges (up to the bolts. This holds the duct in place.

The other end of the duct is flanged and connects to the main duct run with plastic nuts and bolts. Plastic clips (not installed as yet) are then fitted on the top and sides. This is the break away joint, in a fire the plastic melts allowing the main duct to separate from the damper

The fixing flanges are mounted hard to the wall and there are no bolts missing – good.
The width of the angle on the wall needs to be twice the gap between the damper case and the wall

The bad part of this installation is where this duct was cut back to fit the new sleeve. The flange can be tek screwed on but from the outside in, not inside out. The screw heads pose a scratching risk to hands and clothes – not good practice, pretty rough

Firedampers for Beginners – Annual Certification of Firedampers

You may recall that earlier in the presentation reference as made to annual certification of firedampers, 20 % to be inspected every year so that all dampers are inspected over a 5 year period.

This inspection involves physically testing the operation of the damper by removing the access panel, dropping the fire damper curtain, blade, checking it closes and then re-opening and re-instating the thermal link (all through the access panel) The fixing angles are then removed to check that the damper in position, packing material is in place and the surrounding wall is still intact. In short there are 12 major checks to be carried out on each damper.

This is something that we do not normally get involved with, (which is a good thing) however the principles of annual certification checks need to be applied to any existing fire dampers that comes part of, or incorporated into our works. At this point we become responsible for the compliance of this damper.

It is highly likely, based on past experiences that there will be many of these existing dampers that will not comply for one reason or another.



Fire Damper Maintenance Inspection

FD Ref: _____

This sticker certifies that this fire damper has been checked and is deemed to meet the requirements for Fire Dampers installation as outlined in AS 1668 Part 1, 2012, AS1682 Part 1 & 2 – 1991 & for Maintenance of Fire Dampers AS1851.6.

I confirm that I am competent by knowledge and training to sign off this installation.

Name: _____

Signature: _____ Date: _____

Minimum fire dampers to be re-inspected every 5 years.

As indicated previously we need to inspect there dampers and notify client of any non compliance issues and await instruction on how to proceed.

The maintenance inspection is carried out using our form RW-COMM-16. Again this inspection needs to be carried out by the sheetmetal installer, with you along making notes and taking photos.

Firedampers that pass are to be fitted with a Maintenance inspection label similar to the one opposite.

If dampers can not be repaired, or we are instructed not to repair them then this needs to be recorded. This should be done using sheet like Fire Damper Summary sheet located in the Firedamper folder, this forms allows you to identify which area are non complaint. Remember it only takes one non compliance item and a damper can not be certified..

Fire Dampers For Beginners

There are a number of tools that have been developed for installation and inspection of fire dampers, these are;

Fire Damper Schedule

<P:\Projects\5. Project Proforma\Project Folder Template - Server\N03200\L - Technical\Master Damper Schedule.xls>

Fire Damper Installation Checklist

<P:\Projects\6. Project Commissioning Documents\Mechanical\Commissioning Test Sheets\RW-MCOM-15 Fire Damper Installation Inspection Record - Draft.xlsx>

Fire Damper Installation Maintenance Checklist

<P:\Projects\6. Project Commissioning Documents\Mechanical\Commissioning Test Sheets\RW-MCOM-16 Fire Damper Maintenance Inspection Sheet - draft.xlsx>

Fire Damper Installation Maintenance Compliance Criteria

<P:\Projects\6. Project Commissioning Documents\Mechanical\Commissioning Test Sheets\RW-MCOM-17 Fire Damper Maintenance Compliance Criteria - draft.xls>

Typical subbie installation certificate has been drafted;

<P:\Projects\6. Project Commissioning Documents\Mechanical\Commissioning Test Sheets\RW-MCOM-18 Contractor Mechanical installation Certificate.doc>

Firedamper ICR's (Installation Form M044, Decommissioning M045 & Recommissioning & Certification M046)

<P:\ITP's & ICR's\ICR's\3. Mechanical - ICR's - updated 03.06.14.docx>

Fire damper labels, (templates)

<P:\Projects\5. Project Proforma\Fire Dampers\Fire Damper Labels>

In addition there are a number of examples of suppliers documents and certification letters and other relevant fire damper information located in the Project folder, these being;

Project Proforma / Fire Dampers

<P:\Projects\5. Project Proforma\Fire Dampers>

For documents and information relating to maintenance or annual checking of firedampers refer to Kent Street Fire damper Rectification and Repairs, project folder and documents;

<P:\Projects\2. NSW Projects\N03501 - N03600\N03568 - Kent St TE - Essential Services Fire Dampers - Transfield>

Firedampers for Beginners

Additional information regarding this topic can be found at the following links;

Boral;

The following link will take you to Boral website where there area number of different types of fire rated constructions.

http://www.boral.com.au/brochures/ordering/default.asp?site=boral&company=Plasterboard&product=plasterboard&subsite=&category=73&c_name=Systems - Fire Rated&list=0&scr=1

CSR – Red Book

The following links will get you to the Red Book “bible” for wall construction

<http://www.gyprock.com.au/Pages/resources/red-book.aspx>

<P:\Projects\5. Project Proforma\Fire Rating Design Guide CSR\GYPROCK-500-Red Book-2011.pdf>

Riley Air Control, information on dampers;

<http://www.rileyair.com.au/services.asp>

Bullocks, damper details, typical installation details. There is a lot of good information on this site.

<http://www.bullockmfg.com.au/dampers/Model%204900%20Curtain%20Fire%20Damper.html>

<http://www.bullockmfg.com.au/installation%20instructions/Model%205000%20-%204900%20-%205650%20Install%20Plasterboard%20Steel%20Stud.pdf>

Cellmec, again more good information here;

http://brochures.celmec.net/celmec_fire_dampers-comau/#/10/

Lorient, Intumescent Firedampers (there are a number of intumescent suppliers, just check web)

http://www.fyreguard.com/pdf/kilargo_ifd_brochure_jan2013.pdf

ANY QUESTIONS



Thanks you for your attention
Please complete training acknowledgement form (Form WHSF-037) before leaving.