Visual Standard - The Quality Pathway

Fire Damper Installation

MORGAN SINDALL CONSTRUCTION

To facilitate this ambition of getting Fire Damper installation right, this guidance must be adopted:

Purpose

Fire damper installation procedures have been developed for all stakeholders including Mechanical Contractor, subsequent ventilation Ductwork installer, Dry wall contractor and Brickwork contractor to understand their role in the planning, execution and witnessing of all fire damper and smoke damper installations. This procedure is mandatory within Morgan Sindall Construction and needs to be reviewed with respective supply chain contractors to ensure their procedures fall in line for the safe execution of these works.

Initial Design Information

Following a review of these requirements for fire dampers and smoke dampers, a risk assessment will be produced along with a report of each area identified where fire dampers/smoke dampers are required. A report is to be produced and the review is to include (but not limited to the following)

- Project Fire Strategy Report
- Architects Fire Strategy drawings
- Assessment against Building Regulations
- Identify all protected lobbies and escape routes
- Raise Technical queries where detail not apparent
- Identify cavity barrier locations and need for plasterboard surrounds.

A full review of the report and risk assessment is to be carried out with the M&E Contractor to ensure all parties are fully aware of the design intent and any/all risks to the project.

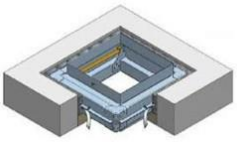
Drawing Production

The BIM will identify all fire damper types on each project. The fire damper details are to be added to all ventilation drawings and be project and damper specific. Details are to identify the model and manufacturer of each type of damper.

All fire dampers are to be given an individual damper reference and this is to be added and controlled by the M&E contractor when producing their working and subsequent As Built drawings.

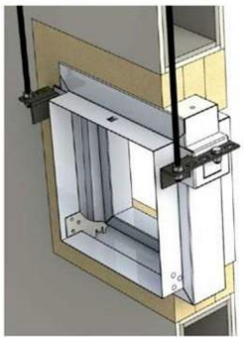
A full accessibility review will be done to check access around other services and builders work elements is achievable. All access openings to plasterboard ceilings/ block walls/boxings is to be identified and agreed with Morgan Sindall Construction.

Fire Damper - Advancedair 0160 Series Floor Installation 120min



1. The opening in the floor slab must be cleaned, free of dust and any other contaminants which could impair the mortar adhesion. A clearance gap 25mm (min) to 50mm (max) must be maintained around the expansion frame of the fire damper (barrier contractor).
2. The tabs on the factory fitted galvanized steel expansion frame will be bent out to tie the damper into the floor with the penetration seal.
3. The damper should be fitted flush to the top edge of the opening.
4. The underside of the damper should be shuttered up with 25mm rigid rock wool Firebatt Min Density 140kg/m3 cut to interference fit and supported from below, this must be left in situ.
5. The "Penetration Seal" must have a structural and fire rated compatibility with both the barrier and the damper and have sufficient strength to retain the fire damper within the floor slab in a fire situation. (4:1 Mortar Mix).
6. Pour the Mortar Mix into the gap between damper and floor slab to half way and ensure all the small gaps are filled, leaving no air pockets. Then pour the top layer up to the installation frame face smoothing off if necessary.
7. The ductwork connecting to the dampers long spigot must overlap by 40mm. The ductwork connecting to the short spigot must overlap the spigot by 40mm, leaving 10mm clearance for any duct expansion in a fire situation.
8. All ductwork connections must be sealed with an approved ductwork sealer, and fixed with low resistance fixings such as: aluminium alloy rivets or nylon bolts.
9. All connecting ductwork must be independently supported within 1meter of the connections.

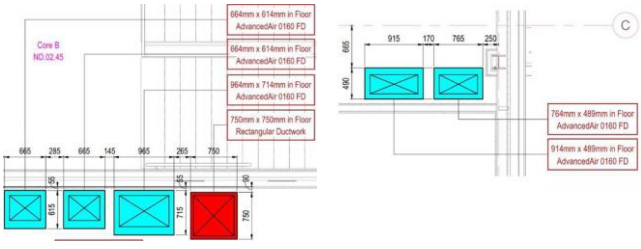
Fire Damper - Advancedair 0160 Series Drywall 60min (Option 2)



1. The Drywall which will consist of two layers of 15mm plasterboard each side of steel studwork with a 50mm Rockwool insulation. The opening will be a letterbox construction with overlapping layers of plasterboard with an opening clearance of 25mm (min) - 100mm (max) all around the fire damper casing (barrier contractor).
2. Two M10 drop rods per fire damper shall be fitted on one side of the drywall fixed by steel anchors into the slab or soffit above.
3. The damper should be fitted flush to the one side of the wall opening and hung by drop rods using the slotted rail and bolted tight keeping the damper within the wall opening.
4. The gap between the damper and the wall opening will need filing in with 140kg/m3 50mm Firebatt cut to interference fit and pushed in place.
5. The ductwork connecting to the damper spigots must overlap by 40mm, leaving a 10mm clearance for any duct expansion in a fire situation.
6. All ductwork connections must be sealed with an approved ductwork sealer, and fixed with low resistance fixings such as: aluminium alloy rivets or nylon bolts.
7. All connecting ductwork must be independently supported within 1meter of the connections.

Examples of the typical details are to be as follows:

Builders work details will be produced for each fire damper and drawings are colour coded and show the type and manufacturer being installed in each opening. Examples of the typical details are to be as follows.



Our Quality vision:

We will get it right first time on all our projects by delivering exceptional customer service

Get it right!

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Project Implementation Phase

The Project Team will review and implement the fire damper plan. Any outstanding technical queries (TQ) regarding fire strategy and positions/types of fire dampers are to remain a TQ on technical meeting reports and the project team are to drive these to a conclusion with the overall design team.

Inspection (Fire dampers should be fitted into wall and this will be prior to any ductwork being connected)

1. Access doors shall be located to give ready access both to the fire damper and fusible link/latch assembly.
2. Opening for access should be as recommended in HVCA DW/144 and DW145
3. All moving parts shall be free of dust and dirt.

Photographic evidence is to be produced of each damper and a report issued to Morgan Sindall Construction. This will identify any issues with the openings provided or any areas which contravene the manufacturers requirements for full certification.

Inspection on Completion

1. Ductwork supports are complaint with DW144 and DW145
2. Unrestricted access to Fire damper access Points
3. Integrity of structure opening hasn't been compromised
4. Sign Off label fitted to Fire damper and photographed

A Morgan Sindall Construction Fire Damper Quality Assurance and Inspection Form is to be completed at each location and completed regularly in order to advise Morgan Sindall Construction and respective supply chain contractors of any ongoing issues or remedial work necessary to fully comply with DW144, DW145 and fire damper manufacturers requirements.

Testing

1. The fusible link shall be removed / tripped, and the fire damper dropped. The damper blades shall be checked for freedom of movement, the fire damper shall then be reset.
2. The client shall be given the opportunity to witness all fire damper drop tests.
3. On satisfactory completion of testing the Engineer shall produce a signed and witnessed test certificate for incorporation into the project operating and maintenance file and health and safety file.

Documentation

Quality Assurance Check sheets

Ongoing issues that are not being closed out on site are to be reported to Morgan Sindall Construction for advanced discussions internally and with all necessary stakeholders.