

# FIRE DOOR 4

## LVH44 AIR TRANSFER GRILLE WITH COVER GRILLES INTO TIMBER FIRE DOOR

### DESCRIPTION

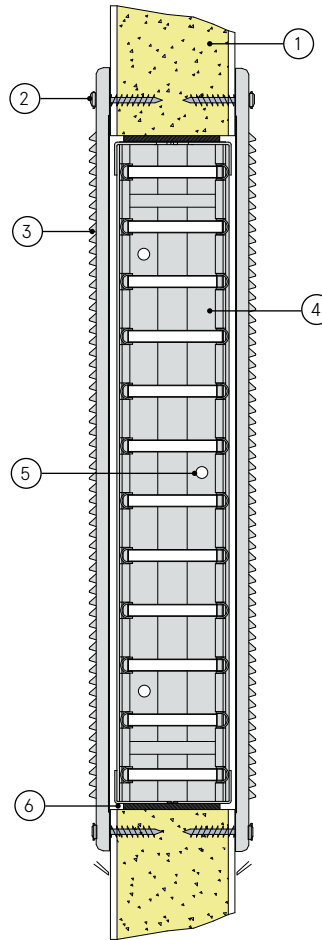
- |   |  |
|---|--|
| 1 | FD30: 44mm thick timber fire door.<br>FD60: 54mm thick timber door   |
| 2 | Grille to door fasteners - 25mm wood screws                          |
| 3 | Pressed steel cover grille   |
| 4 | LVH44 intumescent air transfer grille                                |
| 5 | Intumescent air transfer grille to door fasteners - 25mm wood screws |
| 6 | Intumescent liner.   |

### CONTENTS

- LVH44 air transfer grille
- Intumescent liner (LX4402) or (LX5402)
- Cover grille (optional)

### TOOLS REQUIRED

- 25mm wood screws
- Power drill
- Screw driver



**Note:** Screw holes based on 600mm square grille. Location and number may vary depending on the size of the grille. Max centres 200mm.

### LVH44 into a timber fire door

#### FD30/60

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC C397901

#### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Ensure that cutting an aperture in the door will not detract from the fire integrity of the door. Contact the manufacturer to establish the maximum size and optimum position.
- ▶ Cut the aperture to the required size with a maximum gap all around of 3mm.
- ▶ Pre-drill vertical outer frames of LVH44 to accept fixing screws.
- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fit the LVH44 into the aperture and ensure that it is positioned equidistant from each face and parallel from both faces of the door.
- ▶ Fit retaining wood screws through pre-drilled holes in LVH44 vertical outer uprights into door.
- ▶ Position pressed steel cover grille centrally over one face of the LVH44 and fix using screws.
- ▶ Repeat to other face if two cover grilles are to be fitted.
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 5

## LVH44 AIR TRANSFER GRILLE WITH COVER GRILLES INTO MINERAL COMPOSITE FIRE DOOR

### DESCRIPTION

- 1 Minimum 44mm thick mineral composite fire door
- 2 Grille to door fasteners - 25mm wood screws
- 3 Pressed steel cover grille
- 4 LVH44 intumescent air transfer grille
- 5 Intumescent air transfer grille to door fasteners - 25mm wood screws
- 6 Intumescent liner

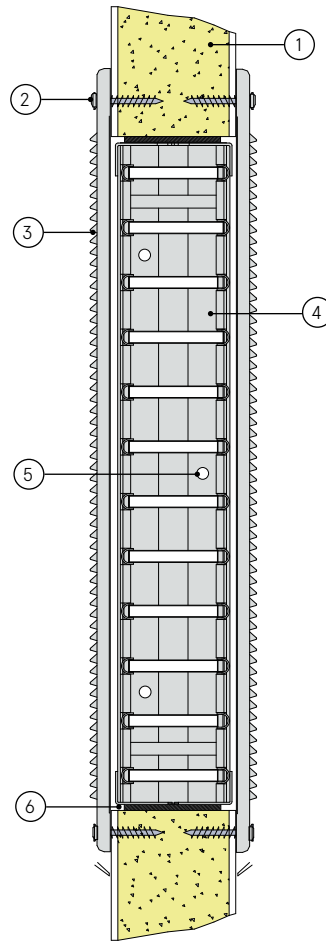
In order to comply with CF564, the upper edge of the grille shall be no higher than 3000mm from the floor level. The lower edge of the grille shall be no closer than 200mm to floor level. Consult door manufacturers before cutting out in relation to permissible aperture sizes and locations.

### CONTENTS

- LVH44 air transfer grille
- Intumescent liner (LX4402)
- Cover grille (optional)

### TOOLS REQUIRED

- 25mm wood screws
- Power drill
- Screw driver



**Note:** Screw holes based on 600mm square grille. Location and number may vary depending on the size of the grille. Max centres 200mm.

### LVH44 into a mineral composite fire door

#### FD120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC C397901  
CF564\*

#### Max single cell size

600mm x 600mm  
\*Any rectangular shape up to 0.2025m<sup>2</sup>

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Ensure that cutting an aperture in the door will not detract from the fire integrity of the door. Contact the manufacturer to establish the maximum size and optimum position.
- ▶ Cut the aperture to the required size with a maximum gap all around of 3mm.
- ▶ Pre-drill vertical outer frames of LVH44 to accept fixing screws.
- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fit the LVH44 into the aperture and ensure that it is positioned equidistant from each face and parallel from both faces of the door.
- ▶ Fit retaining wood screws through pre-drilled holes in LVH44 vertical outer uprights into door.
- ▶ Position pressed steel cover grille centrally over one face of the LVH44 and fix using screws.
- ▶ Repeat to other face if two cover grilles are to be fitted.
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 6

## LVH44 AIR TRANSFER GRILLE WITH COVER GRILLES INTO STEEL FIRE DOOR

### DESCRIPTION

- |   |  |
|---|--|
| 1 | Minimum 44mm thick steel fire door   |
| 2 | Grille to door fasteners - self tapping screws   |
| 3 | Pressed steel cover grille   |
| 4 | LVH44 intumescent air transfer grille  |
| 5 | Intumescent air transfer grille to door fasteners - self tapping screws (3.2mm x 16mm) |
| 6 | Intumescent liner  |

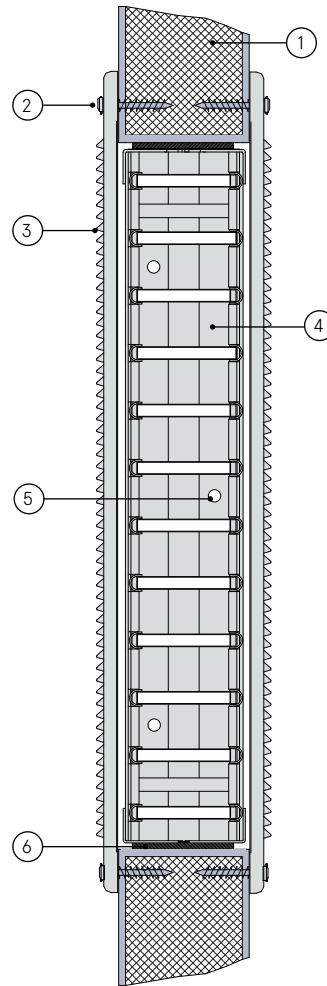
In order to comply with CF564, the upper edge of the grille shall be no higher than 3000mm from the floor level. The lower edge of the grille shall be no closer than 200mm to floor level. Consult door manufacturers before cutting out in relation to permissible aperture sizes and locations.

### CONTENTS

- LVH44 air transfer grille
- Intumescent liner (LX4402)
- Cover grille (optional)

### TOOLS REQUIRED

- Self tapping screws (3.2 x 16mm)
- Power drill
- Screw driver



Note: Screw holes based on 600mm square grille. Location and number may vary depending on the size of the grille. Max centres 200mm.

### LVH44 into a steel fire door

### FD120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C397901  
CF564\*

### Max single cell size

600mm x 600mm

\*Any rectangular shape up to 0.2025m<sup>2</sup>

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Ensure that cutting an aperture in the door will not detract from the fire integrity of the door. Contact the manufacturer to establish the maximum size and optimum position.
- ▶ Form the aperture to the required size with a maximum gap all around of 3mm.
- ▶ Pre-drill vertical outer frames of LVH44 to accept fixing screws.
- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fit the LVH44 into the aperture and ensure that it is positioned equidistant from each face and parallel from both faces of the door.
- ▶ Fit retaining self tapping screws through pre-drilled holes in LVH44 vertical outer uprights into door.
- ▶ Position pressed steel cover grille centrally over one face of the LVH44 and fix using screws.
- ▶ Repeat to other face if two cover grilles are to be fitted.
- ▶ Note: Fixings supplied by others.

# FIRE DOOR 11

## LVH44 AIR TRANSFER GRILLE FITTED INTO TIMBER FRAME WITH ANGLE FIXINGS

### DESCRIPTION

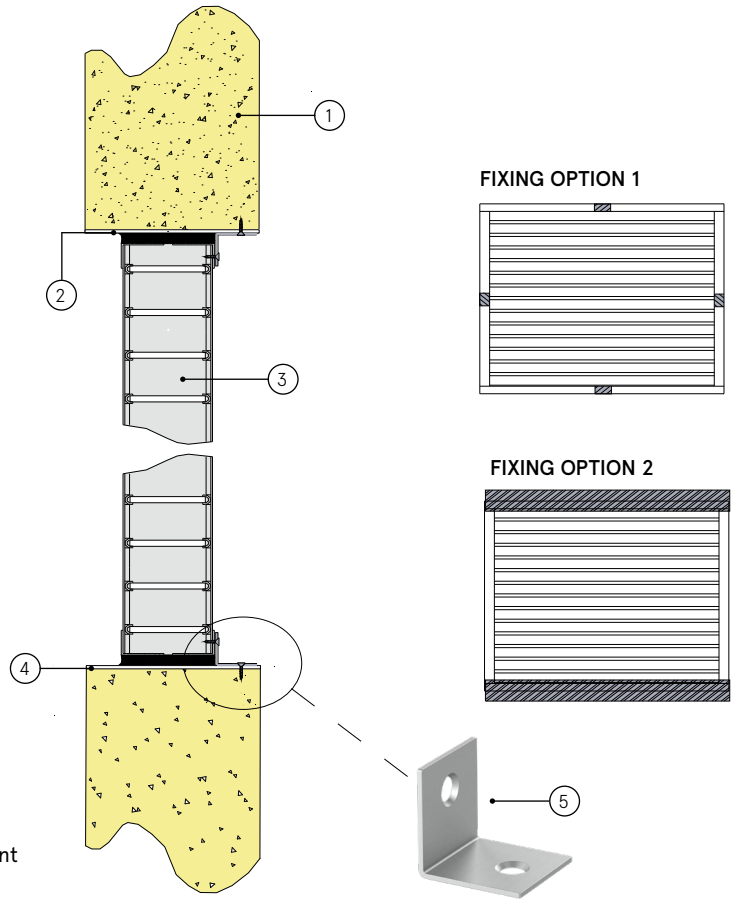
- 1 Timber frame as part of associated doorset framing system
  - 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm
  - 3 Lorient LVH44 intumescent air transfer grille
  - 4 2mm intumescent liner
  - 5 **Fixing angle:** 20 x 20 x 1mm thick minimum galvanised steel angles fixed to air transfer grille unit with self tapping screws and to timber frame with wood screws
- Fixing option 1:** 20mm wide angle tabs, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width angles top and bottom only with 200mm fixing centres

### CONTENTS

- LVH44 air transfer grille
- 2mm intumescent liner
- Cover grille (optional)

### TOOLS REQUIRED

- Angle fixings
- Self tapping screws (3.5 x 16mm)
- 25mm wood screws
- Lorient intumescent sealant



### LVH44 for timber frame with angle fixings

### FD30/FD60

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW4T1)

### Max single cell size

Any rectangular shape up to 1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fix the mounting angles onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into timber frame. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the angles to the timber frame with wood screws.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of LVH44 as shown (note: maximum clearance of 10mm applies).
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 12

## LVH44 AIR TRANSFER GRILLE FITTED INTO TIMBER FRAME WITH TAB PLATE FIXINGS

### DESCRIPTION

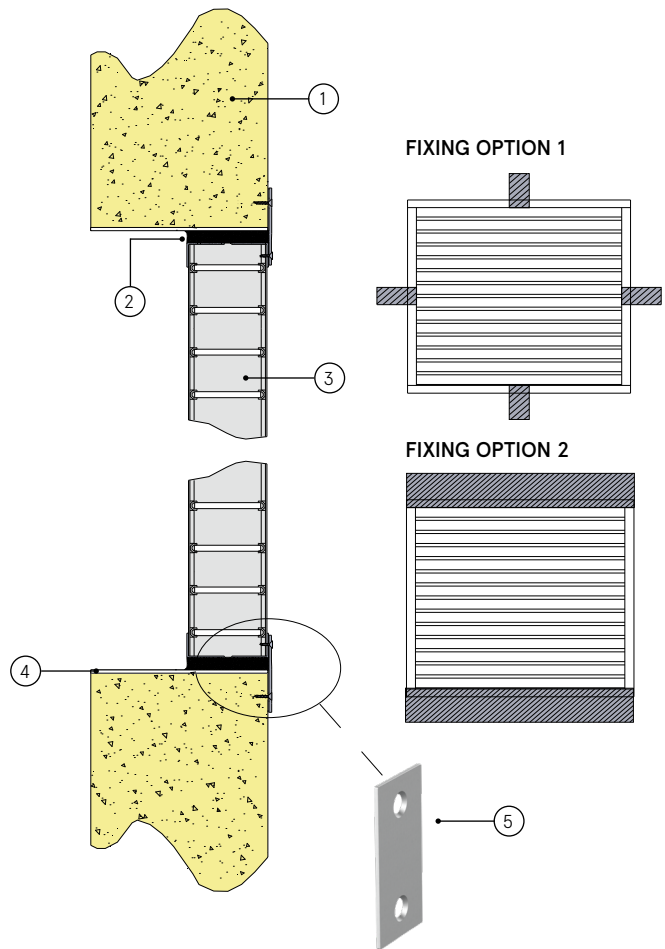
- 1 Timber frame as part of associated doorset framing system
  - 2 Lorient intumescent sealant around air transfer grille perimeter to a maximum clearance of 10mm
  - 3 Lorient LVH44 intumescent air transfer grille
  - 4 2mm intumescent liner
  - 5 **Fixing tab:** 40 x 20 x 1mm thick minimum galvanised steel tabs fixed to LVH44 unit with self tapping screws and to timber frame with wood screws
- Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres

### CONTENTS

- LVH44 air transfer grille
- 2mm intumescent liner
- Cover grille (optional)

### TOOLS REQUIRED

- Tab plate fixings
- Self tapping screws (3.5 x 16mm)
- 25mm wood screws
- Lorient intumescent sealant



### LVH44 for timber frame with tab plate fixings

## FD30/FD60

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW4T2)

### Max single cell size

Any rectangular shape up to 1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fix the mounting tabs onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into timber frame. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the tabs to the timber frame with wood screws.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of LVH44 as shown (note: maximum clearance of 10mm applies).
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 13

## LVH44 AIR TRANSFER GRILLE FITTED INTO TIMBER FRAME WITH Z SECTION FIXINGS

### DESCRIPTION

- 1 Timber frame as part of associated doorset framing system
- 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm
- 3 Lorient LVH44 intumescent air transfer grille
- 4 **Fixing Z section:** 40 x 20 x 1mm thick minimum galvanised steel Z section fixed to LVH44 with self tapping screws and to timber frame with wood screws

**Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres

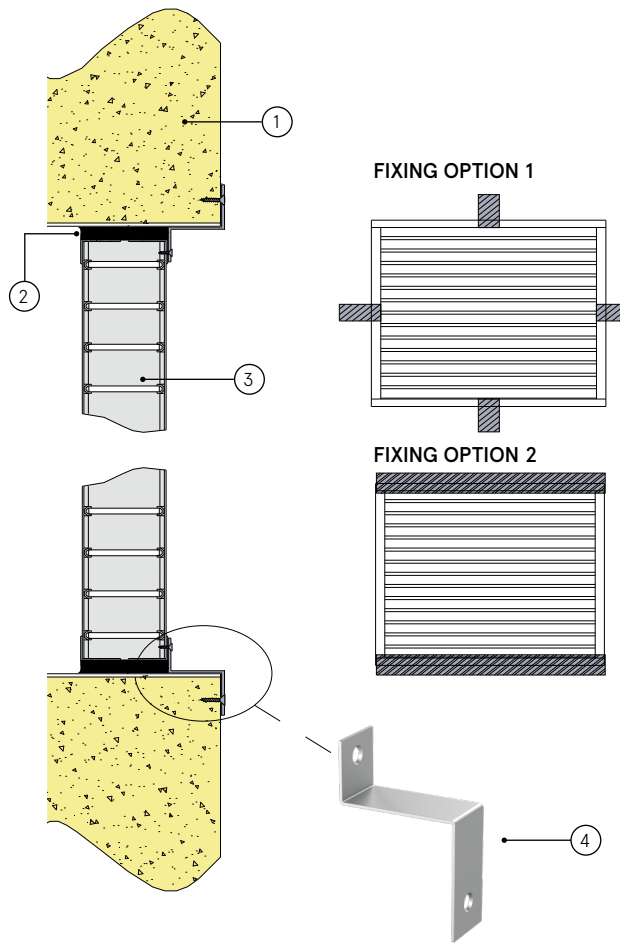
**Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres.

### CONTENTS

- LVH44 air transfer grille
- 2mm intumescent liner
- Cover grille (optional)

### TOOLS REQUIRED

- Z section fixings
- Self tapping screws (3.5 x 16mm)
- 25mm wood screws
- Lorient intumescent sealant



### LVH44 for timber frame with Z section fixings

#### FD30/FD60

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC C121316 (AW4T3)

#### Max single cell size

Any rectangular shape up to 1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fix the mounting Z section onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into timber frame. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the Z section to the timber frame with wood screws.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of LVH44 as shown (note: maximum clearance of 10mm applies).
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 14

## LVH44 AIR TRANSFER GRILLE FITTED INTO STEEL FRAME WITH ANGLE FIXINGS

### DESCRIPTION

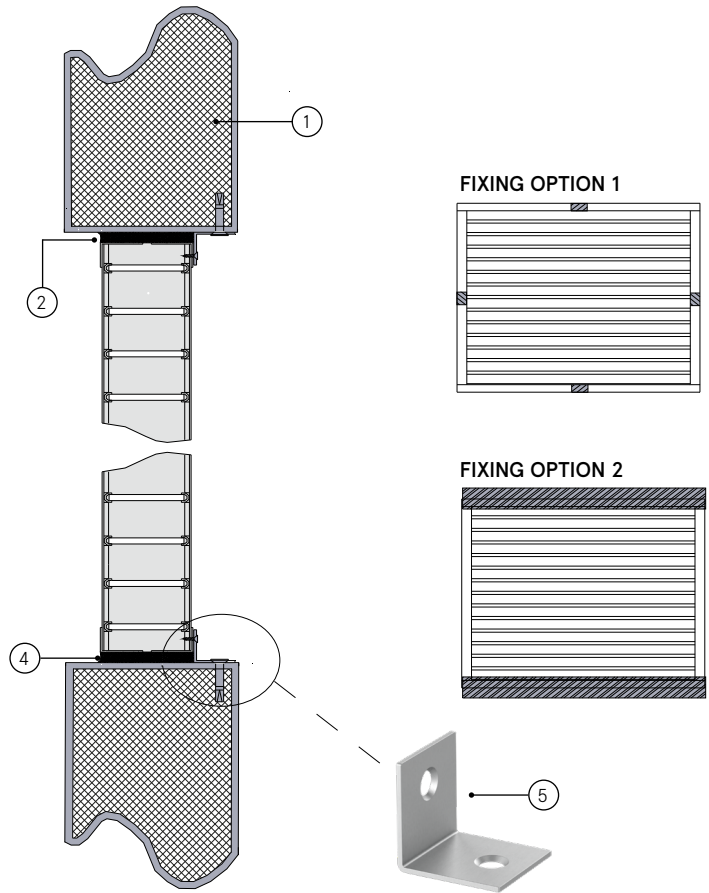
- 1 Steel frame as part of associated doorset framing system
  - 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm
  - 3 Lorient LVH44 intumescent air transfer grille
  - 4 4mm intumescent liner
  - 5 **Fixing angle:** 20 x 20 x 1mm thick minimum galvanised steel angles fixed to air transfer grille unit with self tapping screws and to steel frame with self tapping screws
- Fixing option 1:** 20mm wide angle tabs, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width angles top and bottom only with 200mm fixing centres

### CONTENTS

- LVH44 air transfer grille
- 4mm graphite liner
- Cover grille (optional)

### TOOLS REQUIRED

- Angle fixings
- Self tapping screws (3.5 x 16mm)
- Lorient intumescent sealant



### LVH44 for steel frame with angle fixings

#### FD120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC C121316 (AW4S1)

#### Max single cell size

Any rectangular shape up to 1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fix the mounting angles onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into steel frame. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the angles to the steel frame with self tapping screws.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of LVH44 as shown (note: maximum clearance of 10mm applies).
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 15

## LVH44 AIR TRANSFER GRILLE FITTED INTO STEEL FRAME WITH TAB PLATE FIXINGS

### DESCRIPTION

- 1 Steel frame as part of associated doorset framing system
- 2 Lorient intumescent sealant around air transfer grille perimeter to a maximum clearance of 10mm
- 3 Lorient LVH44 intumescent air transfer grille
- 4 4mm intumescent liner
- 5 **Fixing tab:** 40 x 20 x 1mm thick minimum galvanised steel tabs fixed to LVH44 unit with self tapping screws and to steel frame with self tapping screws

**Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres

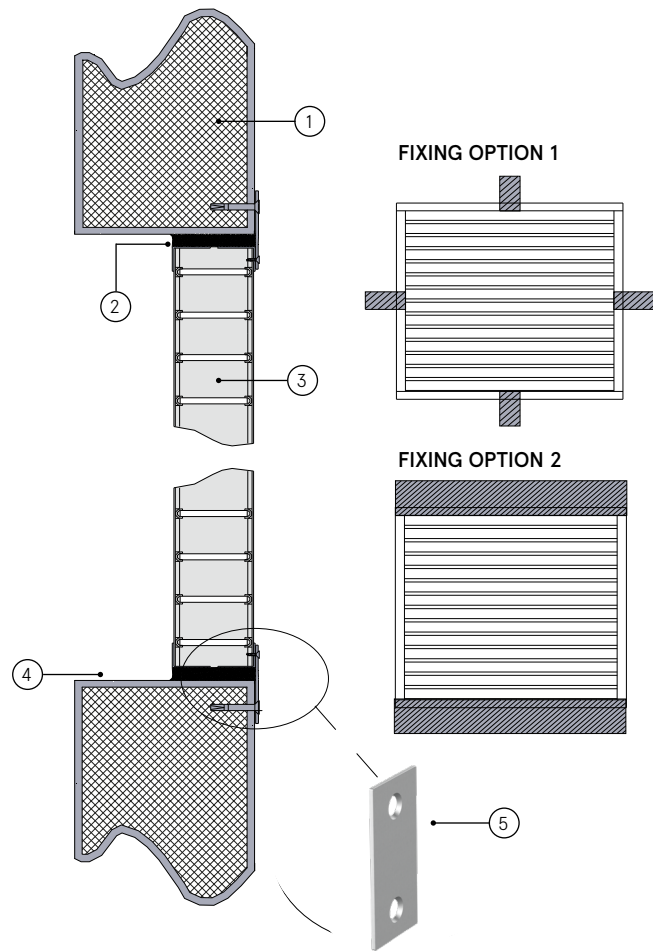
**Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres

### CONTENTS

- LVH44 air transfer grille
- 4mm graphite liner
- Cover grille (optional)

### TOOLS REQUIRED

- Tab plate fixings
- Self tapping screws (3.5 x 16mm)
- Lorient intumescent sealant



### LVH44 for steel frame with tab plate fixings

## FD120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW4S2)

### Max single cell size

Any rectangular shape up to 1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fix the mounting tabs onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into steel frame. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the tabs to the steel frame with self tapping screws.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of LVH44 as shown (note: maximum clearance of 10mm applies).
- ▶ **Note: Fixings supplied by others.**

# FIRE DOOR 16

## LVH44 AIR TRANSFER GRILLE FITTED INTO STEEL FRAME WITH Z SECTION FIXINGS

### DESCRIPTION

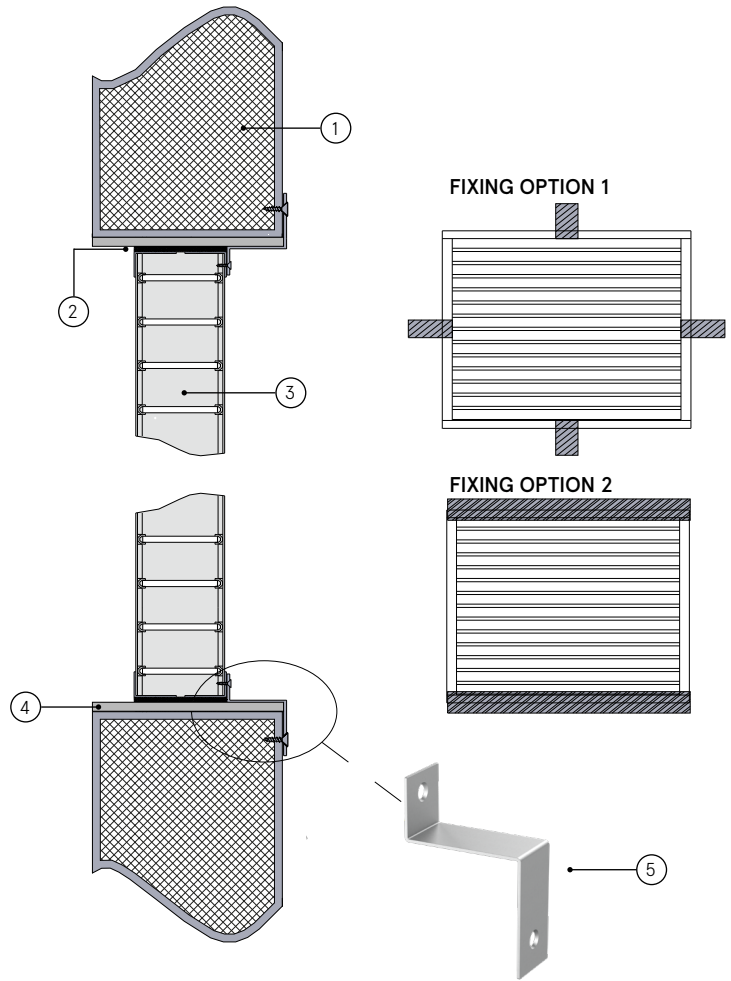
- 1 Steel frame as part of associated doorset framing system
  - 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm
  - 3 Lorient LVH44 intumescent air transfer grille
  - 4 4mm intumescent liner
  - 5 **Fixing Z section:** 40 x 20 x 1mm thick minimum galvanised steel Z section fixed to LVH44 with self tapping screws and to steel frame with self tapping screws
- Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres.

### CONTENTS

- LVH44 air transfer grille
- 4mm graphite liner
- Cover grille (optional)

### TOOLS REQUIRED

- Z section fixings
- Self tapping screws (3.5 x 16mm)
- Lorient intumescent sealant



### LVH44 for steel frame with Z section fixings

## FD120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW4S3)

### Max single cell size

Any rectangular shape up to 1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Apply Lorient intumescent liner to the inside faces of the aperture.
- ▶ Fix the mounting Z section onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into steel frame. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the Z section to the steel frame with self tapping screws.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of LVH44 as shown (note: maximum clearance of 10mm applies).
- ▶ **Note: Fixings supplied by others.**

# WALL 1

## LVH44 AIR TRANSFER GRILLE FITTED INTO RIGID WALL WITH ANGLE FIXINGS

### DESCRIPTION

- 1 Rigid wall construction
- 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
- 3 Lorient LVH44 intumescent air transfer grille
- 4 **Fixing angle:** 20 x 20 x 1mm thick minimum galvanised steel angles fixed to air transfer grille unit with self tapping screws and to wall with masonry anchors

**Fixing option 1:** 20mm wide angle tabs, central to all four sides or at 200mm maximum centres

**Fixing option 2:** Full width angles top and bottom only with 200mm fixing centres

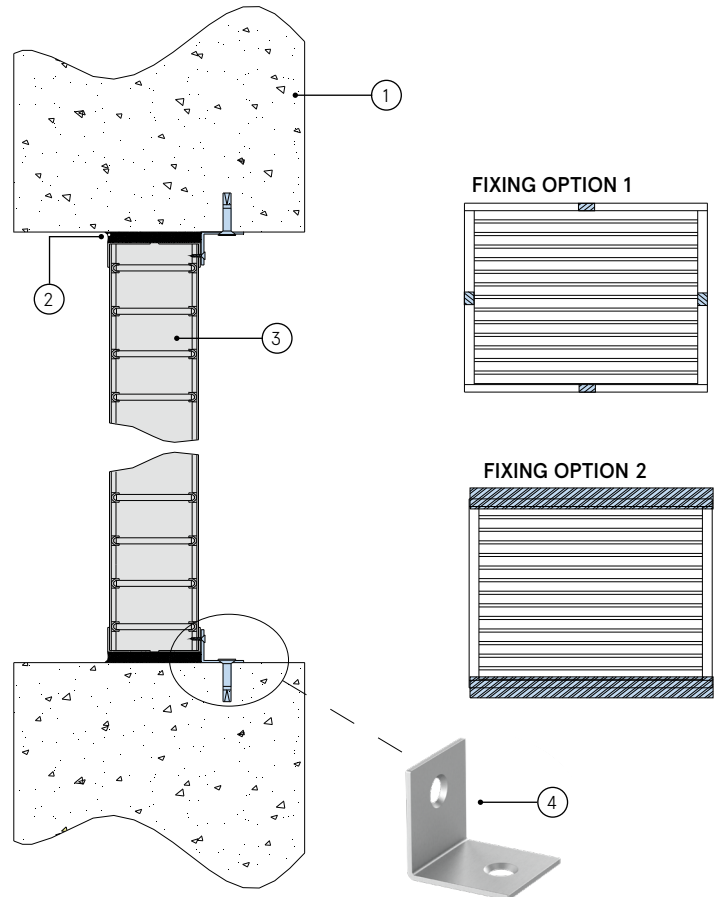
In order to comply with CF564, the upper edge of the grille shall be no higher than 3000mm from floor level. The lower edge of the grille shall be no closer than 200mm to floor level.

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Angle fixings
- Self tapping screws (3.5 x 16mm)
- Masonry anchors
- Lorient intumescent sealant



### LVH44 for rigid wall with angle fixings

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW1)  
CF564\*

### Max single cell size

Any rectangular shape up to 600 x 600mm  
\*0.2025m<sup>2</sup>

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the mounting angles onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into rigid wall opening. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the angles to the rigid wall with masonry anchors.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 2

## LVH44 AIR TRANSFER GRILLE FITTED INTO RIGID WALL WITH TAB PLATE FIXINGS

### DESCRIPTION

- 1 Rigid wall construction
- 2 Lorient intumescent sealant around air transfer grille perimeter to a maximum clearance of 25mm
- 3 Lorient LVH44 intumescent air transfer grille
- 4 **Fixing tab:** 40 x 20 x 1mm thick minimum galvanised steel tabs fixed to LVH44 unit with self tapping screws and to wall with masonry anchors

**Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres

**Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres

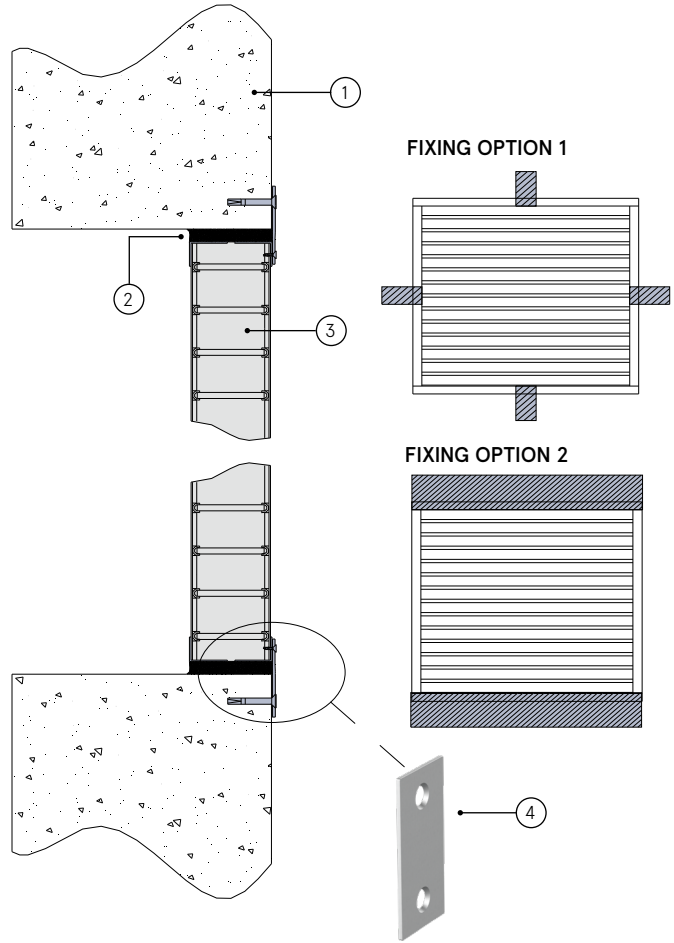
In order to comply with CF564, the upper edge of the grille shall be no higher than 3000mm from floor level. The lower edge of the grille shall be no closer than 200mm to floor level.

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Tab plate fixings
- Self tapping screws (3.5 x 16mm)
- Lorient intumescent sealant



### LVH44 for rigid wall with tab plate fixings

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW2)  
CF564\*

### Max single cell size

Any rectangular shape up to 600 x 600mm  
0.2025m<sup>2</sup>\*

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the mounting tabs onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into rigid wall opening. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the tabs to the rigid wall with masonry anchors.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 3

## LVH44 INTO RIGID WALL WITH Z SECTION FIXINGS

### DESCRIPTION

- 1 Rigid wall construction
- 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
- 3 Lorient LVH44 intumescent air transfer grille
- 4 **Fixing Z section:** 40 x 20 x 1mm thick minimum galvanised steel Z section fixed to LVH44 with self tapping screws and to wall with masonry anchors

**Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres

**Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres.

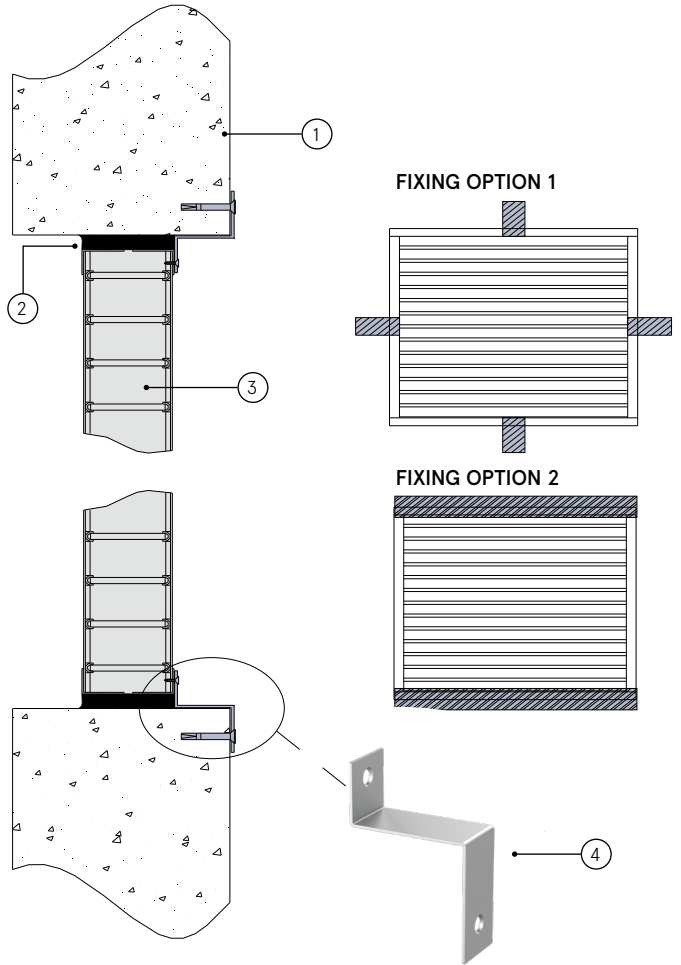
In order to comply with CF564, the upper edge of the grille shall be no higher than 3000mm from floor level. The lower edge of the grille shall be no closer than 200mm to floor level.

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Z section fixings
- Self tapping screws (3.5 x 16mm)
- Masonry anchors
- Lorient intumescent sealant



### LVH44 for rigid wall with Z section fixings

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AW3)  
CF564\*

### Max single cell size

Any rectangular shape up to 600 x 600mm  
0.2025m<sup>2</sup>\*

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the mounting Z section onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into rigid wall opening. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the Z section to the rigid wall with masonry anchors.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 4

## LVH44 INTO FIRE RATED FLEXIBLE WALL WITH ANGLE FIXINGS

### DESCRIPTION

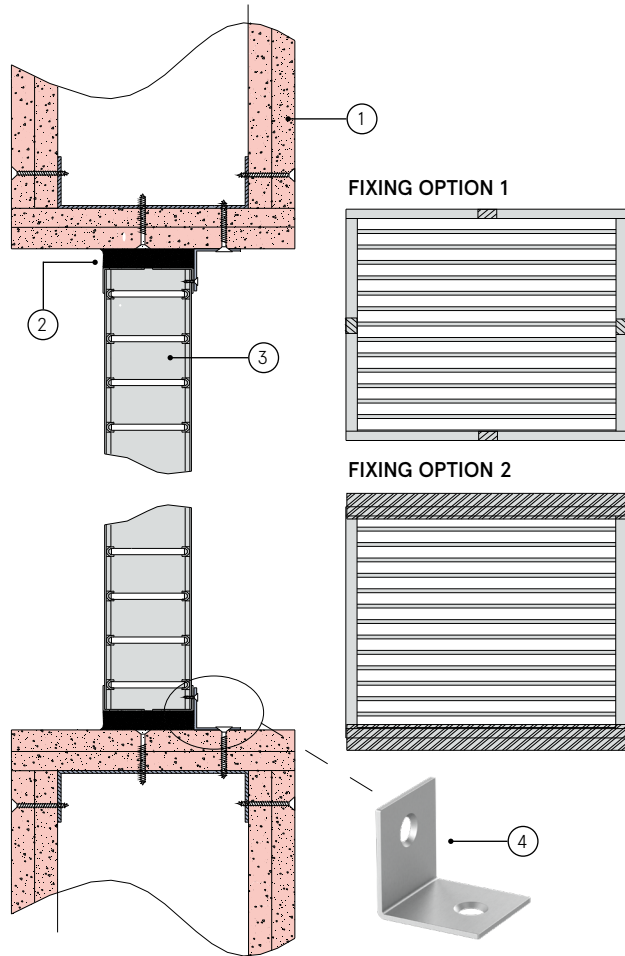
- 1 Fire rated flexible wall
  - 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
  - 3 Lorient LVH44 intumescent air transfer grille
  - 4 **Fixing angle:** 20 x 20 x 1mm thick minimum galvanised steel angles fixed to LVH44 with self tapping screws and to wall with drywall screws
- Fixing option 1:** 20mm wide angles, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width angles top and bottom only with 200mm fixing centres.

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Angle fixings
- Self tapping screws (3.5 x 16mm)
- Drywall screws
- Lorient intumescent sealant



### LVH44 for FR flexible wall with angle fixings

## FR60 / FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

FSP 1970

FRT 230055

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the mounting angles onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into fire rated flexible wall opening. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the angle to the fire rated flexible wall with drywall screws.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (Note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 5

## LVH44 INTO FIRE RATED FLEXIBLE WALL WITH TAB PLATE FIXINGS

### DESCRIPTION

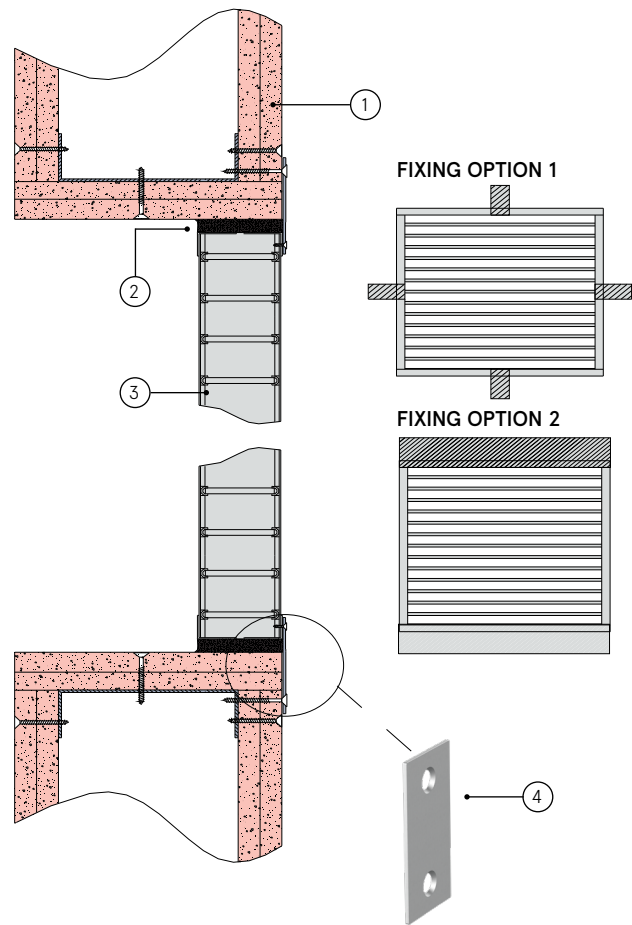
- 1 Fire rated flexible wall
  - 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
  - 3 Lorient LVH44 intumescent air transfer grille
  - 4 **Fixing tab:** 40 x 20 x 1mm thick minimum galvanised steel tabs fixed to LVH44 with self tapping screws and to wall with drywall screws
- Fixing option 1:** 20mm wide tabs, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width tabs top and bottom only with 200mm fixing centres.

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Steel tabs
- Self tapping screws (3.5 x 16mm)
- Drywall screws
- Lorient intumescent sealant



### LVH44 for FR flexible wall with tab fixings

## FR60 / FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

FSP 1970

FRT 230055

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the mounting tabs onto the LVH44 air transfer grilles using self tapping screws to **one side only**.
- ▶ Insert LVH44 into fire rated flexible wall opening. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the tab to the fire rated flexible wall with drywall screws.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (Note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 6

## LVH44 INTO FIRE RATED FLEXIBLE WALL WITH Z SECTION FIXINGS

### DESCRIPTION

- 1 Fire rated flexible wall
- 2 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
- 3 Lorient LVH44 intumescent air transfer grille
- 4 **Fixing Z section:** 40 x 20 x 1mm thick minimum galvanised steel Z section fixed to LVH44 with self tapping screws and to wall with drywall screws

**Fixing option 1:** 20mm wide angles, central to all four sides or at 200mm maximum centres

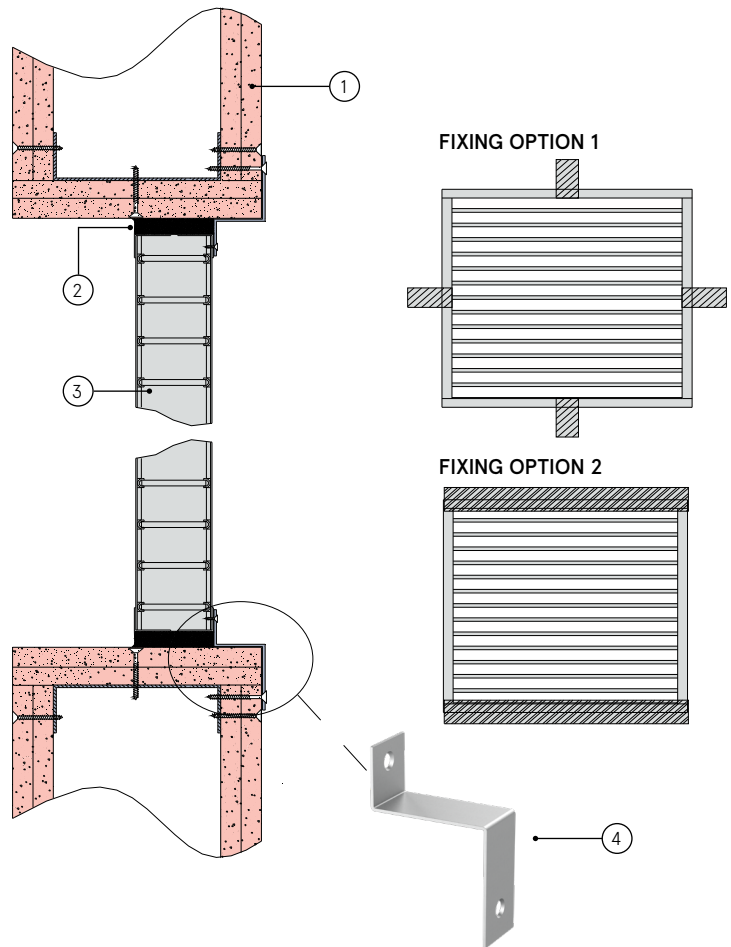
**Fixing option 2:** Full width angles top and bottom only with 200mm fixing centres.

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Z section fixings
- Self tapping screws (3.5 x 16mm)
- Drywall screws
- Lorient intumescent sealant



### LVH44 for FR flexible wall with Z section fixings

## FR60 / FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

FSP 1970

FRT 230055

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the Z sections onto the LVH44 air transfer grille using self tapping screws to **one side only**.
- ▶ Insert LVH44 into fire rated flexible wall opening. (Note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the Z section to the fire rated flexible wall with drywall screws.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (Note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 7

## LVH44 FACE-FIXED ONTO RIGID WALL WITH ANGLE FIXINGS

### DESCRIPTION

- 1 Rigid wall construction
  - 2 Lorient intumescent sealant between air transfer grille and masonry wall
  - 3 Lorient LVH44 intumescent air transfer grille to one side only (either side of the wall is acceptable)
  - 4 **Fixing angle:** 40 x 40 x 1mm thick minimum galvanised steel angles fixed to LVH44 unit with self tapping screws and to wall with masonry anchors
- Fixing option 1:** 20mm wide angles, central to all four sides or at 200mm maximum centres
- Fixing option 2:** Full width angles top and bottom only with 200mm fixing centres.

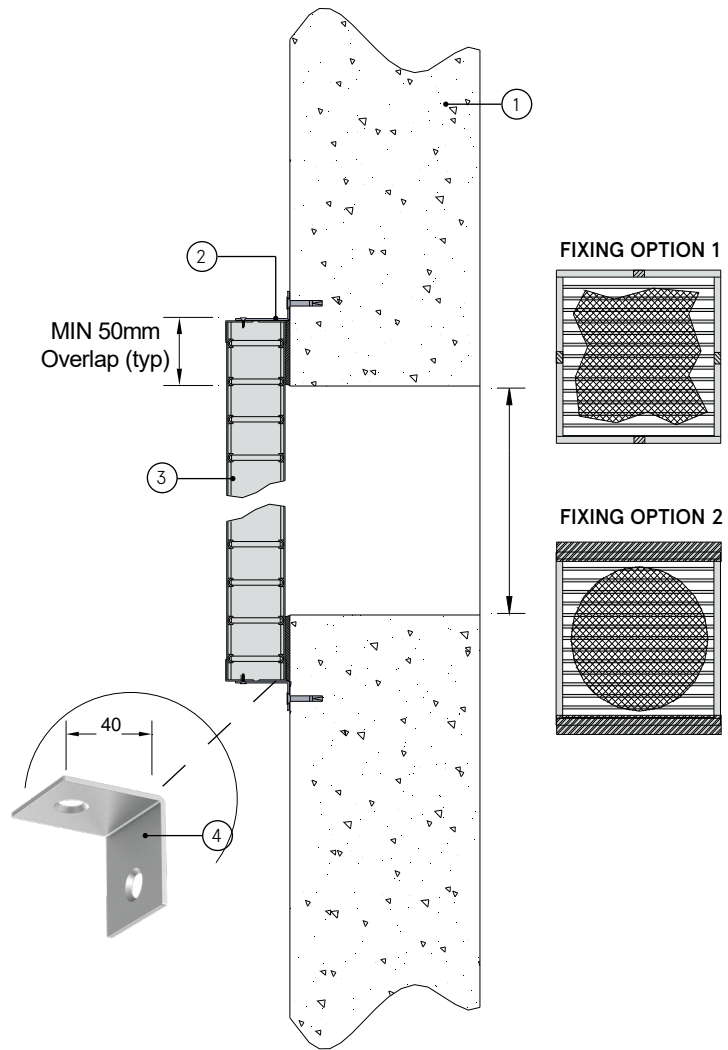
### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Steel angles
- Self tapping screws (3.5 x 16mm)
- Masonry anchors
- Lorient intumescent sealant

**Note:** Maximum size for surface method 600mm x 600mm



### LVH44 for rigid wall face fixed and angle fixings

#### FR120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC 121316 (AW7)

#### Max size for surface mounted method

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Measure penetration ensuring air transfer grille provides 50mm of overlap.
- ▶ Fix the mounting angles onto the LVH44 air transfer grille using self tapping screws.
- ▶ Mount air transfer grille onto rigid wall opening.
- ▶ Fix the angles to the rigid wall with masonry anchors.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of air transfer grille between the LVH44 and the wall.
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note:** Fixings supplied by others.

# WALL 8

## LVH44 MODULAR SYSTEM FOR RIGID WALLS WITH ANGLE FIXINGS

### DESCRIPTION

- 1 Rigid wall construction
- 2 Lorient LVH44 intumescent air transfer grille
- 3 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
- 4 **Fixing angle:** Full width galvanised steel angles (20 x 20 x 1mm) around perimeter of LVH44 on both sides with 200mm fixing centres
- 5 Air transfer grilles slot together using tab system

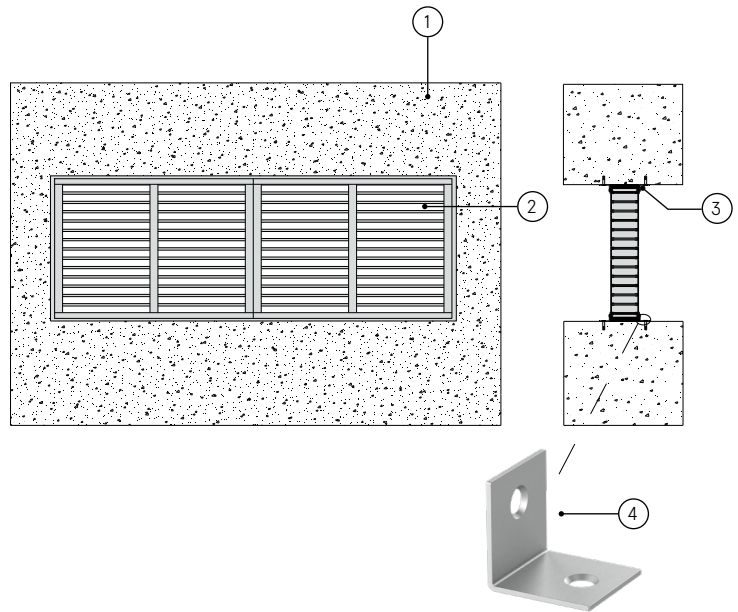
**Note:** For modular systems a 10mm (min) clearance around perimeter is needed

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Steel angles
- Self tapping screws (3.5 x 16mm)
- Masonry anchors
- Lorient intumescent sealant



### LVH44 for rigid wall modular systems with angle fixings

#### FR120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC 121316 (AW8)

#### Max size.

1800mm x 600mm

Larger sizes can be used with a different mounting detail.

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Slide the LVH44 modules together ensuring a bead of Lorient intumescent sealant is used in between air transfer grille modules.
- ▶ Secure tab with self tapping screws into LVH44.
- ▶ Fix the mounting angles onto the LVH44 using self tapping screws to **both sides of the modular air transfer grille.**
- ▶ Insert modular LVH44 into rigid wall opening (note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the angles to the masonry wall with masonry anchors.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of LVH44 as shown (note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# WALL 9

## LVH44 MODULAR SYSTEM FITTED INTO RIGID WALL WITH Z SECTION FIXINGS

### DESCRIPTION

- 1 Rigid wall
- 2 Lorient LVH44 intumescent air transfer grille
- 3 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 25mm
- 4 **Fixing angle:** Full width galvanised steel Z sections (40 x 20 x 1mm thick minimum) around perimeter of LVH44 on both sides with 200mm fixing centres
- 5 Air transfer grilles slot together using tab system

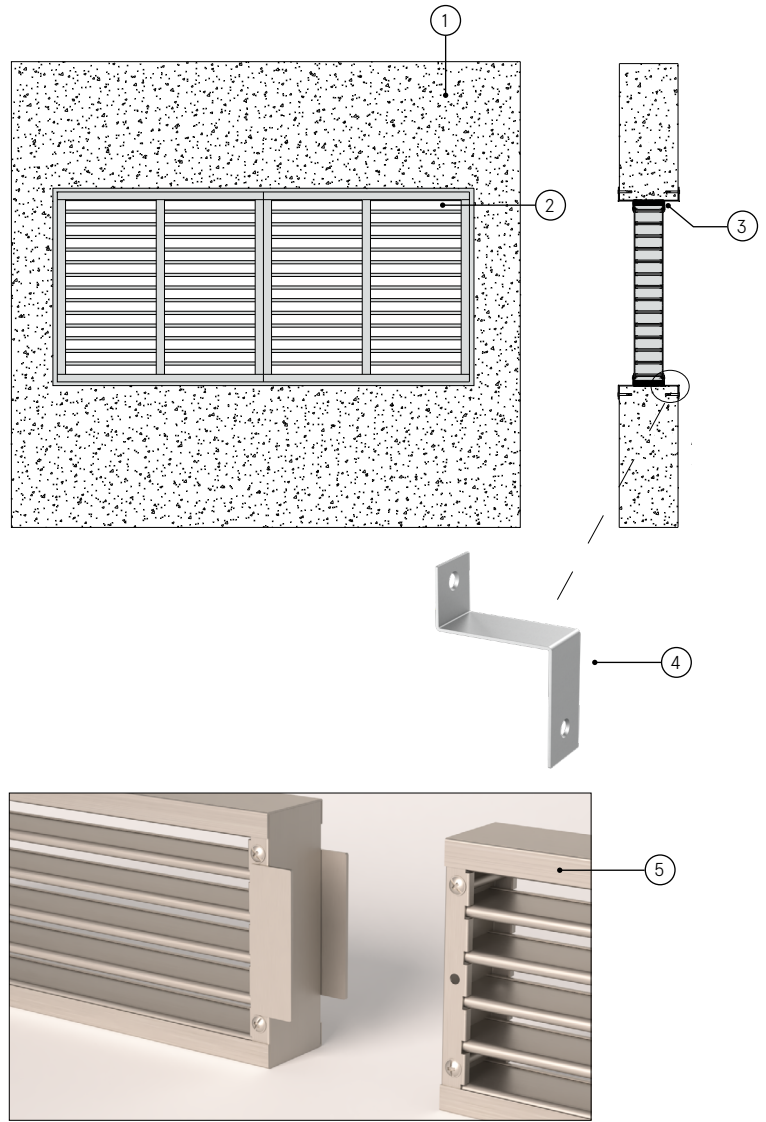
**Note:** For modular systems a 10mm (min) clearance around perimeter is needed

### CONTENTS

- LVH44 air transfer grille
- Cover grille (optional)

### TOOLS REQUIRED

- Z section
- Masonry anchors
- Self tapping screws (3.5 x 16mm)
- Lorient intumescent sealant



### LVH44 modular systems for rigid wall with Z section fixings

#### FR120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC 121316 (AW9)

#### Max size.

1200mm x 600mm

Larger sizes can be used with a different mounting detail.

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Slide the LVH44 modules together ensuring a bead of Lorient intumescent sealant is used in between LVH44 modules.
- ▶ Secure tab with self tapping screws into LVH44.
- ▶ Fix the mounting Z sections onto the LVH44 using self tapping screws to **both sides of the modular air transfer grille.**
- ▶ Insert LVH44 into rigid wall opening (note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Fix the Z sections to the rigid wall with masonry anchors.
- ▶ Apply a bead of Lorient intumescent sealant to full depth around the perimeter of air transfer grille as shown (note: maximum clearance of 25mm applies).
- ▶ Connect ductwork (or cover grille) directly to wall using approved breakaway connections to ensure compliance.
- ▶ **Note: Fixings supplied by others.**

# DUCT 3

## LVH44 INSTALLATION FOR RECTANGULAR STEEL DUCTS

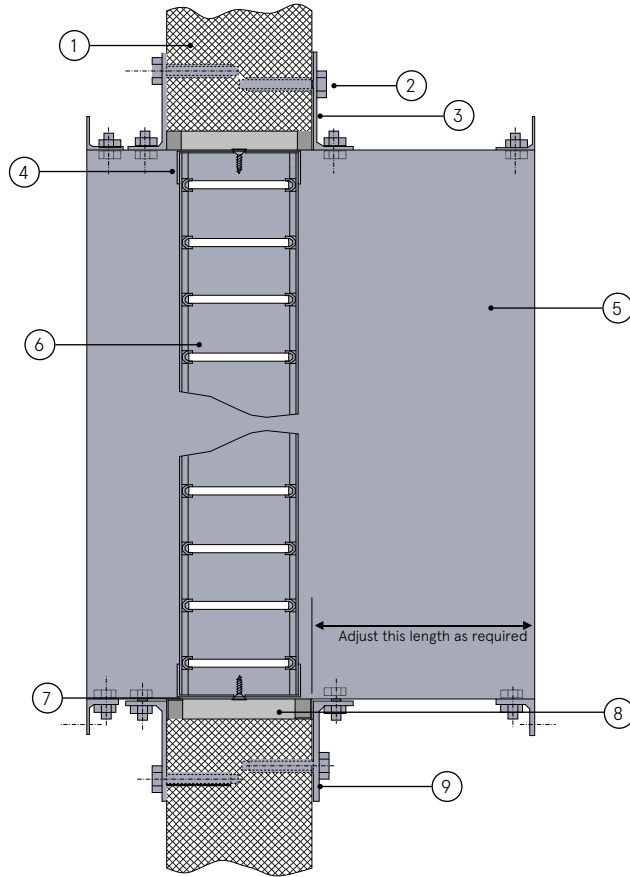
| DESCRIPTION |  |
|-------------|--|
| 1           | Wall   |
| 2           | 50mm wall anchors  |
| 3           | Mouting angle 75 x 25 x 1.2mm galvanised steel   |
| 4           | Damper retaining bracket 20 x 20 x 1mm galvanised steel fixed with short self tapping screws |
| 5           | Galvanised steel duct  |
| 6           | LVH44 intumescent air transfer grille  |
| 7           | Peripheral intumescent sealant bead  |
| 8           | Minimum of 15mm wool   |
| 9           | Joining angle 25 x 25 x 1.2mm galvanised steel.  |

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- 50mm wall anchors
- Mouting angle (75 x 25 x 1.2mm galvanised steel)
- Retaining bracket 1mm (25mm x 25mm)
- Short self tapping screws (3.2mm x 16mm)
- Mineral wool
- Lorient intumescent sealant



### LVH44 installation for rectangular steel duct.

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Prepare a short piece of duct at least 200mm longer than the thickness of the wall to be penetrated. (100mm wall thickness will require a minimum stub duct length of 300mm).
- ▶ To one end of the stub duct fit a wall mounting angle and a joining angle, these may be welded to the ducts or screw fixed. Ensure that all mountings are correctly aligned and square with the duct stub.
- ▶ Fit the air transfer grille retaining brackets to the LVH44. Position the LVH44 into the stub duct where it will be at the centre of the section of the wall when installed e.g. 50 mm from inner flange of mounting bracket for a 100 mm thick wall.
- ▶ Fix the LVH44 using short self tapping screws through retaining brackets into duct wall.
- ▶ Seal around edge of air transfer grille with intumescent sealant.
- ▶ Cut aperture in wall at least 30 mm bigger than the outside duct dimensions.
- ▶ Place stub duct assembly into wall aperture and pack around with mineral wool ensuring that stub duct is level and correctly aligned.
- ▶ Seal over exposed wool with intumescent sealant.
- ▶ Fix mounting bracket to wall using appropriate wall fasteners.
- ▶ Slide second wall mounting bracket over duct, clamp to wall and fix using appropriate anchors.
- ▶ Fit second joining angle to end of stub duct assembly.
- ▶ Complete installation by connecting stub duct to main ducts, sealing joints with appropriate gasket material.

# DUCT 4

## LVH44 IN INSULATED DUCT SECTION

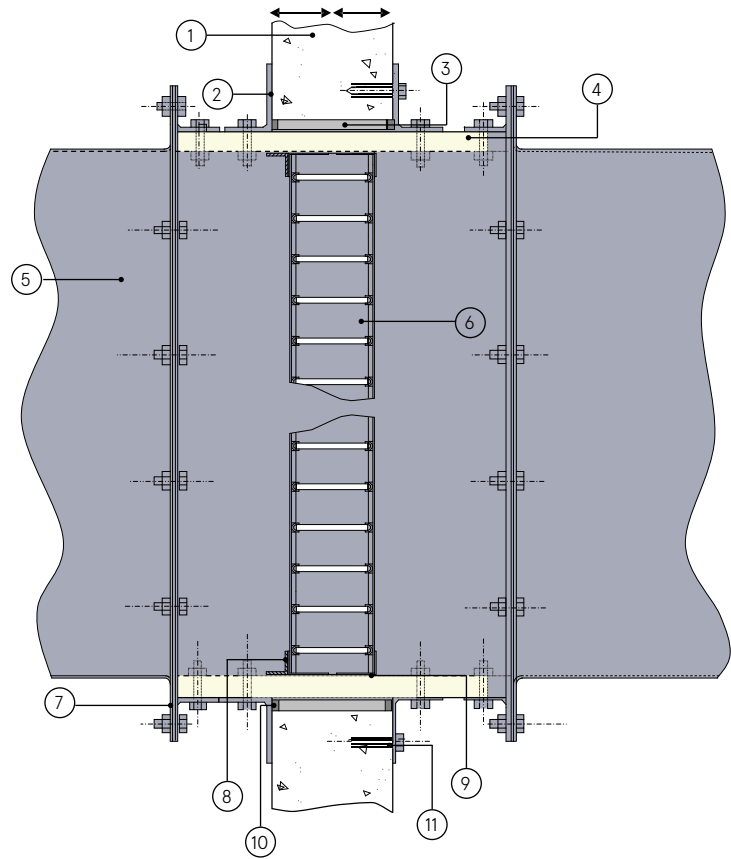
| DESCRIPTION |  |
|-------------|--|
| 1           | Wall   |
| 2           | Wall clamping angle  |
| 3           | Mineral wool packing   |
| 4           | Mineral board  |
| 5           | Steel duct   |
| 6           | LVH44 air transfer grille  |
| 7           | Joining angle  |
| 8           | Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws |
| 9           | Intumescent sealant - LVH44 to duct  |
| 10          | Intumescent sealant bead around perimeter  |
| 11          | Wall fixing angle.   |

**CONTENTS**

- LVH44 air transfer grille

**TOOLS REQUIRED**

- 50mm masonry anchors
- Mounting angle 75 x 25 x 1.20mm galvanised steel
- Retaining bracket 1mm (25mm x 25mm)
- Short self tapping screws (3.2mm x 16mm)
- Mineral wool
- Lorient intumescent sealant



### LVH44 in insulated duct section

#### FR120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC C121316

#### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

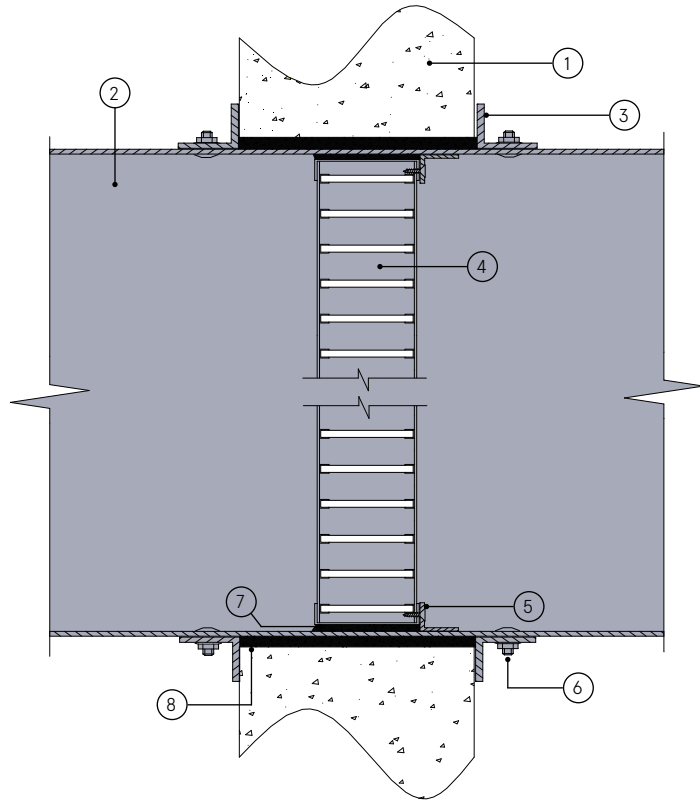
- ▶ Cut 20mm thick mineral boards to dimensions required ensuring a minimum of 2mm clearance on LVH44 width and height.
- ▶ Make up duct section using appropriate screws and seal any joint gaps with intumescent sealant. (Supply of the complete insulated section can be obtained from Lorient by arrangement).
- ▶ Locate damper mounting brackets around LVH44 perimeter.
- ▶ Position LVH44 in insulated duct section so that the air transfer grille will be at the mid point of the wall when the insulated duct is installed.
- ▶ Fix damper mounting brackets to inside of insulated duct using 20mm screws and seal around LVH44 with intumescent sealant.
- ▶ Fit wall mounting angles to duct using nuts and bolts (Note: the vertical flange that clamps to the wall must overlap the aperture by at least 45mm to provide a good anchorage for wall fixings).
- ▶ Pre-drill all bolt holes in insulation duct for joining angles.
- ▶ Cut aperture in wall at least 20mm greater than the dimensions of the duct outer dimensions.
- ▶ Pre-drill wall for mounting fasteners.
- ▶ Position insulated duct section into wall aperture and pack in mineral wool around periphery.
- ▶ Seal over mineral wool or any gaps with intumescent sealant.
- ▶ Secure wall fixing angle to wall using appropriate fasteners, ensuring that the angle makes even contact with the wall face and duct section is level and correctly aligned.
- ▶ Locate wall clamping angle and fix to duct with even contact to wall. Fix joining angles to insulated duct section using appropriate fasteners.
- ▶ Using appropriate gasket material, connect the main steel duct sections to the insulated duct using appropriate fasteners.

# DUCT 10

## RIGID WALL CONSTRUCTION (DUCT TO DUCT)

### DESCRIPTION

- |   |  |
|---|--|
| 1 | Rigid wall construction  |
| 2 | Straight through duct with breakaway connections                                   |
| 3 | Mounting angles  |
| 4 | LVH44 air transfer grille  |
| 5 | Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws |
| 6 | M5 securing bolts  |
| 7 | Seal around edge of air transfer grille with intumescent sealant                   |
| 8 | Fill any gaps between the LVH44 and wall opening with Lorient intumescent sealant  |



### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Drill & 5mm bit
- M5 bolts
- Self tapping screws (3.2mm x 16mm)
- Mounting angles (40 x 40 x 2mm)
- Lorient intumescent sealant

### Rigid wall construction (duct to duct)

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (W-Series)

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Prepare a short piece of duct at least 200mm longer than the thickness of the wall to be penetrated. (100mm wall thickness will require a minimum stub duct length of 300mm).
- ▶ To one end of the stub duct fit a wall mounting angle and a joining angle, these may be welded to the ducts or screw fixed. Ensure that all mountings are correctly aligned and square with the stub duct.
- ▶ Fit the air transfer grille retaining brackets to the LVH44. Position the LVH44 into the stub duct where it will be at the centre of the section of the wall when installed e.g. 50 mm from inner flange of mounting bracket for a 100 mm thick wall.
- ▶ Fix the LVH44 using short self tapping screws through retaining brackets.
- ▶ Seal around edge of air transfer grille with intumescent sealant.
- ▶ Make an opening in the wall.
- ▶ Check the mounting flange size is not less than twice the clearance between the LVH44 and opening.
- ▶ Insert air transfer grille into wall opening.
- ▶ Check the casing fully penetrates the wall opening.
- ▶ Tighten bolts on one set of mounting angles, ensuring the LVH44 sits squarely in the wall.
- ▶ Fill any gaps between the LVH44 and wall opening with Lorient intumescent sealant.
- ▶ Fit mounting flanges on opposite side of wall, ensuring the flanges are hard against the wall and the fixings are adequately tightened.
- ▶ Check the air transfer grille assembly sits squarely in the opening.
- ▶ Connect ductwork to casing, using approved breakaway connections to ensure compliance.
- ▶ Ensure convenient access is provided for easy inspection and cleaning as necessary.

# DUCT 11

## FIRE RATED FLEXIBLE WALL (DUCT TO DUCT)

### DESCRIPTION

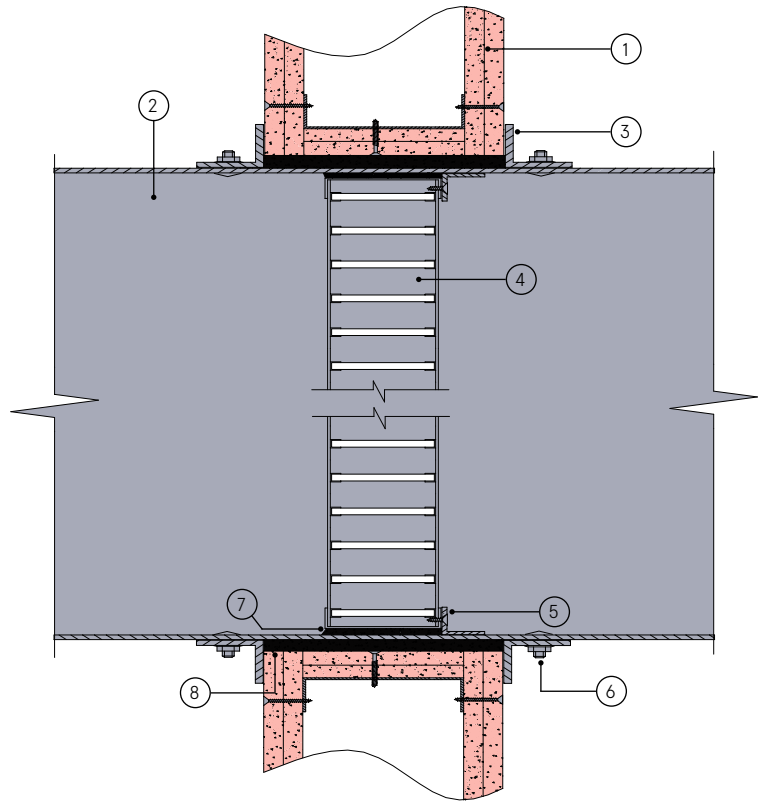
- |   |  |
|---|--|
| 1 | Fire rated flexible wall   |
| 2 | Straight through duct with breakaway connections                                   |
| 3 | Mounting angles  |
| 4 | LVH44 air transfer grille  |
| 5 | Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws |
| 6 | M5 securing bolts  |
| 7 | Seal around edge of air transfer grille with intumescent sealant                   |
| 8 | Fill any gaps between the LVH44 and wall opening with Lorient intumescent sealant  |

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Drill & 5mm bit
- M5 bolts
- Self tapping screws (3.2mm x 16mm)
- Mounting angles (40 x 40 x 2mm)
- Lorient intumescent sealant



### Fire rated flexible wall (duct to duct)

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (W-Series)

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Prepare a short piece of duct at least 200mm longer than the thickness of the wall to be penetrated. (100mm wall thickness will require a minimum stub duct length of 300mm).
- ▶ To one end of the stub duct fit a wall mounting angle and a joining angle, these may be welded to the ducts or screw fixed. Ensure that all mountings are correctly aligned and square with the stub duct.
- ▶ Fit the air transfer grille retaining brackets to the LVH44. Position the LVH44 into the stub duct where it will be at the centre of the section of the wall when installed e.g. 50 mm from inner flange of mounting bracket for a 100 mm thick wall.
- ▶ Fix the LVH44 using short self tapping screws through retaining brackets.
- ▶ Seal around edge of air transfer grille with intumescent sealant.
- ▶ Make an opening in the wall.
- ▶ Check the mounting flange size is not less than twice the clearance between the air transfer grille and opening.
- ▶ Insert LVH44 into wall opening.
- ▶ Check the casing fully penetrates the wall opening.
- ▶ Tighten bolts on one set of mounting angles, ensuring the LVH44 sits squarely in the wall.
- ▶ Fill any gaps between the air transfer grille and wall opening with Lorient intumescent sealant.
- ▶ Fit mounting flanges on opposite side of wall, ensuring the flanges are hard against the wall and the fixings are adequately tightened.
- ▶ Check the air transfer grille assembly sits squarely in the opening.
- ▶ Connect ductwork to casing, using approved breakaway connections to ensure compliance.
- ▶ Ensure convenient access is provided for easy inspection and cleaning as necessary.

# DUCT 12

## FIRE RATED FLEXIBLE WALL (DUCT TO GRILLE)

### DESCRIPTION

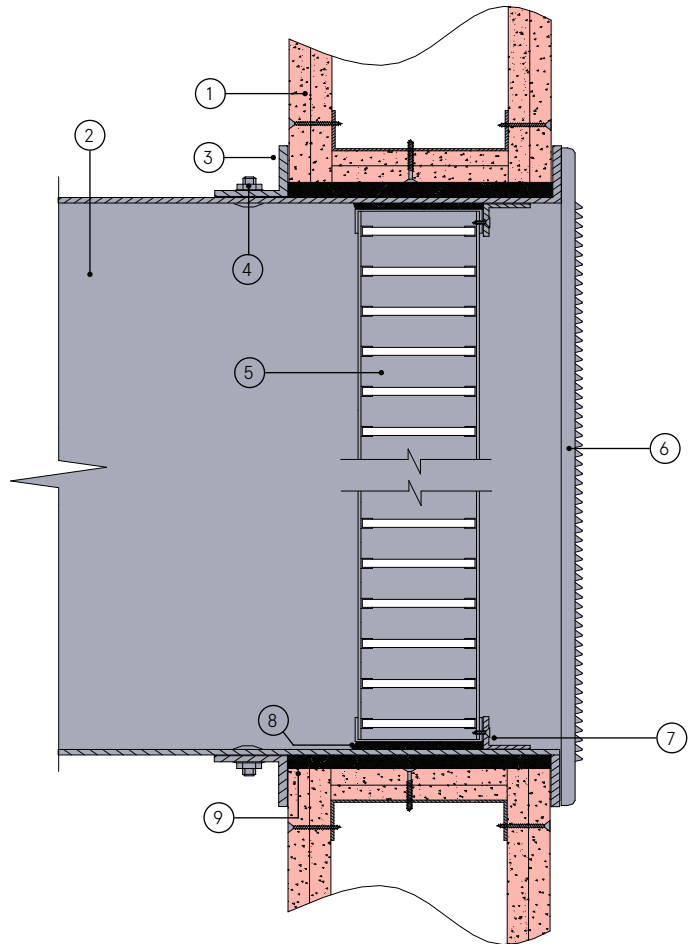
- |   |  |
|---|--|
| 1 | Fire rated flexible wall   |
| 2 | Flanged duct with breakaway connection   |
| 3 | Mounting angles  |
| 4 | M5 securing bolts  |
| 5 | LVH44 air transfer grille  |
| 6 | Lorient RVCG steel face fixed cover grille   |
| 7 | Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws |
| 8 | Seal around edge of air transfer grille with intumescent sealant                   |
| 9 | Fill any gaps between the LVH44 and wall opening with Lorient intumescent sealant  |

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Drill & 5mm bit
- M5 bolts
- Self tapping screws (3.2mm x 16mm)
- Mounting angles (40 x 40 x 2mm)
- Lorient intumescent sealant



### Fire rated flexible wall (duct to grille)

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (W-Series)

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Prepare a short piece of duct at least 100mm longer than the thickness of the wall to be penetrated. (100mm wall thickness will require a minimum stub duct length of 200mm).
- ▶ To one end of the stub duct fit a wall mounting angle and a joining angle, these may be welded to the ducts or screw fixed. Ensure that all mountings are correctly aligned and square with the stub duct.
- ▶ Fit the air transfer grille retaining brackets to the LVH44. Position the LVH44 into the stub duct where it will be at the centre of the section of the wall when installed e.g. 50mm from inner flange of mounting bracket for a 100mm thick wall.
- ▶ Fix the LVH44 using short self tapping screws through retaining brackets.
- ▶ Seal around edge of air transfer grille with intumescent sealant.
- ▶ Make an opening in the wall.
- ▶ Check the mounting flange size is not less than twice the clearance between the air transfer grille and opening.
- ▶ Insert LVH44 into fire rated flexible wall opening.
- ▶ Check the casing fully penetrates the wall opening.
- ▶ Fill any gaps between the LVH44 and wall opening with Lorient intumescent sealant.
- ▶ Fit mounting flanges and ensure flanges are hard against the wall and the fixings are adequately tightened.
- ▶ Check the air transfer grille assembly sits squarely in the opening.
- ▶ Connect ductwork to casing, using approved breakaway connections to ensure compliance.
- ▶ Ensure convenient access is provided for easy inspection and cleaning as necessary.

# DUCT 13

## RIGID WALL WITH METAL CASING (DUCT TO GRILLE)

### DESCRIPTION

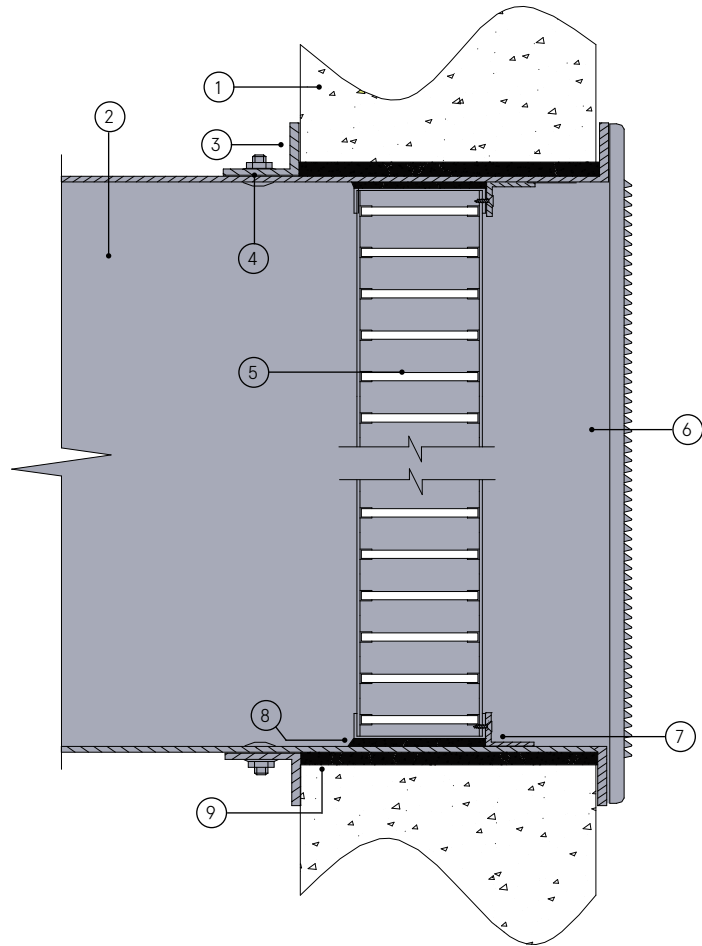
- |   |  |
|---|--|
| 1 | Rigid wall construction  |
| 2 | Flanged duct with breakaway connection   |
| 3 | Mounting angles  |
| 4 | M5 securing bolts  |
| 5 | LVH44 air transfer grille  |
| 6 | Lorient RVCG steel face fixed cover grille   |
| 7 | Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws |
| 8 | Seal around edge of air transfer grille with intumescent sealant                   |
| 9 | Fill any gaps between the LVH44 and wall opening with Lorient intumescent sealant  |

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Drill & 5mm bit
- M5 bolts
- Self tapping screws (3.2mm x 16mm)
- Mounting angles (40 x 40 x 2mm)
- Lorient intumescent sealant



### Rigid wall with metal casing (duct to grille)

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (W-Series)

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

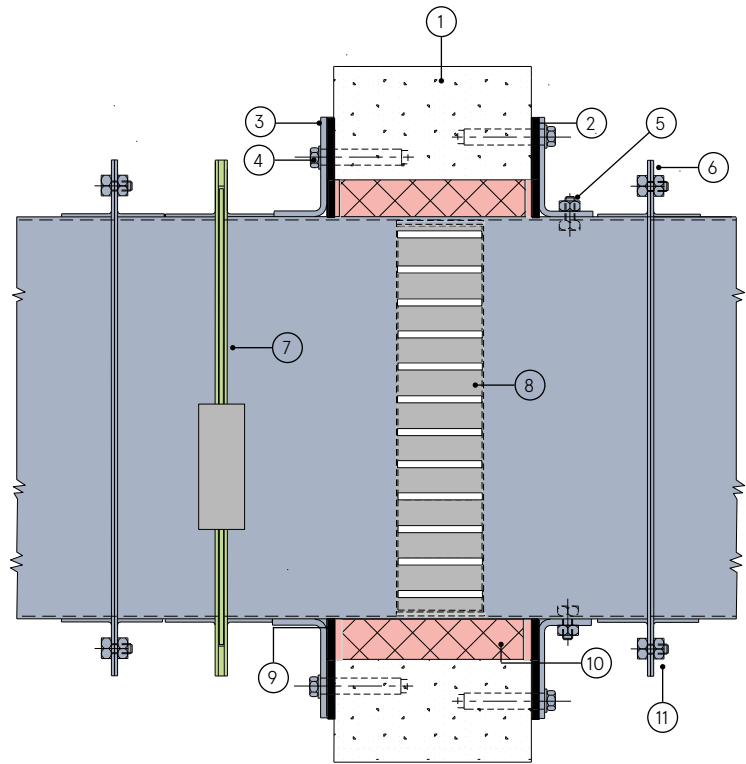
- ▶ Prepare a short piece of duct at least 100mm longer than the thickness of the wall to be penetrated. (100mm wall thickness will require a minimum stub duct length of 200mm).
- ▶ To one end of the stub duct fit a wall mounting angle and a joining angle, these may be welded to the ducts or screw fixed. Ensure that all mountings are correctly aligned and square with the stub duct.
- ▶ Fit the air transfer grille retaining brackets to the LVH44. Position the LVH44 into the stub duct where it will be at the centre of the section of the wall when installed e.g. 50mm from inner flange of mounting bracket for a 100mm thick wall.
- ▶ Fix the LVH44 using short self tapping screws through retaining brackets.
- ▶ Seal around edge of air transfer grille with intumescent sealant.
- ▶ Make an opening in the wall.
- ▶ Check the mounting flange size is not less than twice the clearance between the air transfer grille and opening.
- ▶ Insert LVH44 assembly into masonry wall opening.
- ▶ Check the casing fully penetrates the wall opening.
- ▶ Fill any gaps between the air transfer grille and wall opening with Lorient intumescent sealant.
- ▶ Fit mounting flanges and ensure flanges are hard against the wall and the fixings are adequately tightened.
- ▶ Check the air transfer grille assembly sits squarely in the opening.
- ▶ Connect ductwork to casing, using approved breakaway connections to ensure compliance.
- ▶ Ensure convenient access is provided for easy inspection and cleaning as necessary.

# DUCT 15

## LVHCTD + LVH44/LVH54 IN RECTANGULAR STEEL DUCT

### DESCRIPTION

|    |   |
|----|---|
| 1  | Wall  |
| 2  | 4mm x 65mm wide Lorient graphite based backing pads   |
| 3  | Prefitted clamping plate  |
| 4  | 65mm anchor bolts   |
| 5  | 70 x 30 x 3mm steel clamping plate fixed to duct with M5 nuts & bolts   |
| 6  | 45 x 45 x 3mm standard steel flanges  |
| 7  | Sliding shutter plate & actuator assembly   |
| 8  | LVH44 or LVH54 air transfer grille for fire and cold smoke control or no air transfer grille for cold smoke control only – as per specification |
| 9  | Intumescent sealant seal over mineral fibre face  |
| 10 | Mineral fibre packing   |
| 11 | Aluminium bolts to fasten duct joint flanges (approx. melting point 540 deg.C).   |



### CONTENTS

- LVHCTD + LVH44/LVH54 air transfer grille

### TOOLS REQUIRED

- Graphite based intumescent backing pad

- 70 x 30 x 3mm steel clamping plates
- M5 nuts and bolts

- M3 nuts and bolts
- 65mm anchor bolts
- 45 x 45 x 3mm standard steel flanges

- 25 x 25 x 1.5mm steel LVH retaining frames
- Lorient intumescent sealant

### LVHCTD + LVH44\*/LVH54\*\* installation for rectangular steel duct. FR120\*/FR240\*

#### Fire Resistance in accordance with

BS 476-22:1987\*

ISO 10294-5\*\*

#### Approval Ref

WFRC C121316\*

BRE 227730\*\*

#### Max single cell size

600mm x 600mm.

LVH44/LVH54 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ **This product is primarily designed for installation in the orientation shown; any proposed change to the plane of operation should be discussed with Lorient technical staff in advance.**
- ▶ Cut an aperture in the wall at least 30mm bigger than the outside LVHCTD casing dimension in a position that will allow the smoke control shutter plate to be slid out of the housing. (If the aperture has been cut more than 60mm greater than the casing dimension, then the wall must be made good to the appropriate size before attempting to fit the LVHCTD assembly).
- ▶ For fire rated air transfer grilles cut to size 8 no. pieces of Lorient rigid graphite based intumescent sheet material and fix 4 no. to the flange of the pre-fitted clamping plate using self adhesive tape in order to provide a continuous seal between the clamping plate flange and the wall. Cold smoke control 'only' LVHCTD do not need these seals.
- ▶ Position the assembly into the aperture taking care that the smoke control shutter plate can slide clear of the housing without interference from the surroundings, tightly pack around with mineral wool and seal both exposed faces of the mineral wool with intumescent sealant.
- ▶ Press the pre-fitted clamping plate and where fitted the intumescent sheet seal hard against the wall. Care must be taken to avoid distorting the

assembly by crushing or twisting. Fix the pre-fitted clamping plate flange to the wall ensuring the intumescent sheet seal if fitted is deployed satisfactorily.

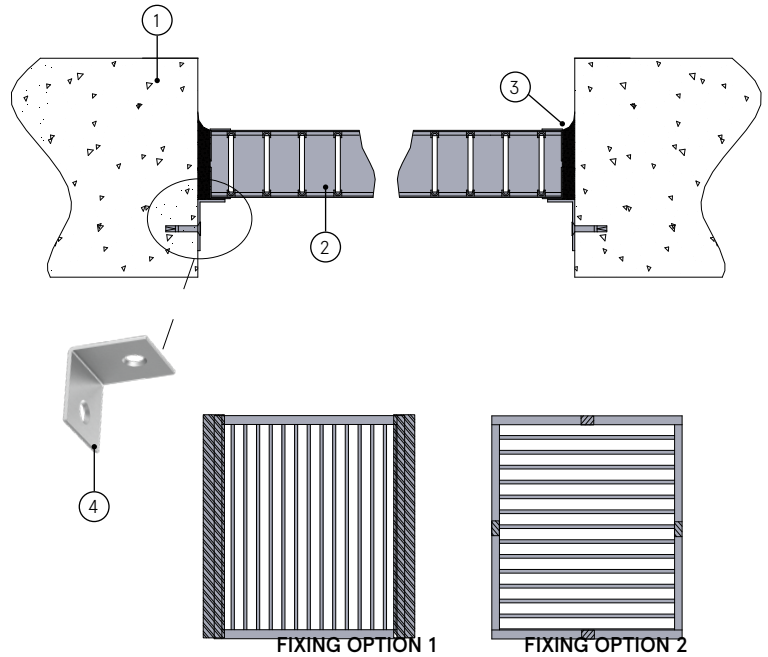
- ▶ For fire rated LVHCTD fix the 4 remaining sheet seals with self adhesive tape to the flange of the second clamping plate and position over the casing up to wall and fix in place making sure that the duct is positioned square to the wall in both planes. Seal over all exposed mineral wool with intumescent sealant.
- ▶ Ensure that the inside of the housing and shutter plates are entirely clear of dust and debris.
- ▶ Fit standard jointing flanges to each end of the housing and complete the installation by connecting to the duct, sealing joints with appropriate gasket materials.
- ▶ Check that the shutter plate assembly can slide freely within the housing.
- ▶ The electrical connections for the actuator of the cold smoke control system must be made in accordance with the instructions contained in Talkback Manual. Test the function of the system in accordance with the installing and commissioning instructions supplied with the LVHCTD.

# FLOOR 3

## MASONRY FLOOR WITH ANGLE FIXINGS

### DESCRIPTION

- 1 Masonry floor
  - 2 LVH44 air transfer grille
  - 3 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm
  - 4 **Fixing angle:** 40 x 20 x 1mm thick minimum galvanised steel angles fixed to floor with masonry anchors
- Fixing option 1:** Full width angles on opposing sides only with 200mm fixing centres
- Fixing option 2:** 20mm wide angles, central to all four sides or at 200mm maximum centres.



### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Masonry anchors
- Angle fixings 40 x 20 x 1mm
- Lorient intumescent sealant

**Note:** If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### Masonry floor with angle fixings

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AF1)

### Max single cell size

600 x 600mm

Larger sizes can be used with different mounting detail.

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the mounting angles to the masonry floor using masonry anchors to **one side only**.
- ▶ Insert LVH44 into masonry floor opening (note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of metal sleeve as shown (note: maximum annular clearance of 10mm applies).
- ▶ Connect ductwork (or cover grille) directly to floor using approved breakaway connections to ensure compliance.

# FLOOR 4

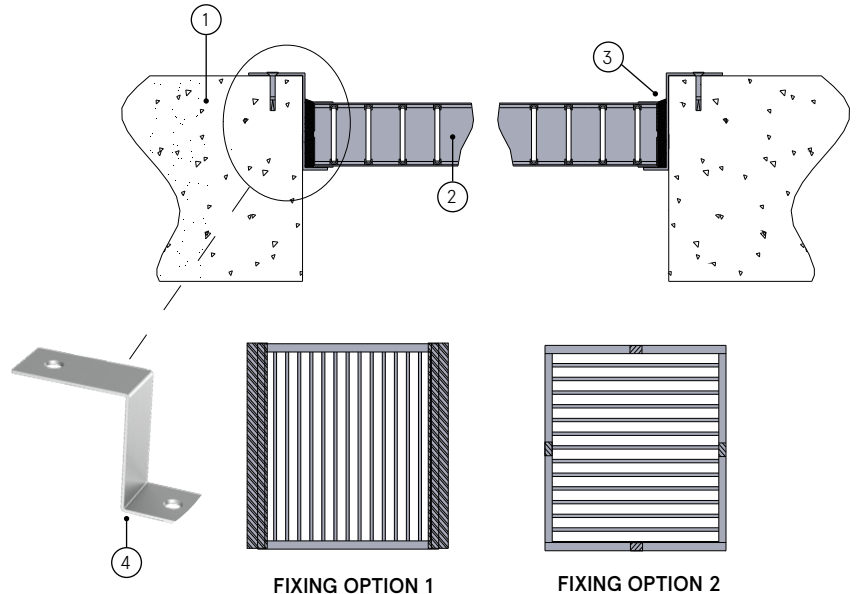
## MASONRY FLOOR WITH Z SECTION FIXINGS

### DESCRIPTION

- 1 Masonry floor
- 2 LVH44 air transfer grille
- 3 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm
- 4 **Fixing angle:** 40 x 60 x 20mm, 1mm thick minimum galvanised steel Z sections fixed to floor with masonry anchors

**Fixing option 1:** Full width Z sections on opposing sides only with 200mm fixing centres

**Fixing option 2:** 20mm wide Z sections, central to all four sides or at 200mm maximum centres.



### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Lorient intumescent sealant
- Masonry anchors
- Z section fixings 40 x 60 x 20mm, 1mm thick



Note: If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### Masonry floor with Z section fixings

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AF2)

### Max single cell size

600 x 600mm

Larger sizes can be used with different mounting detail.

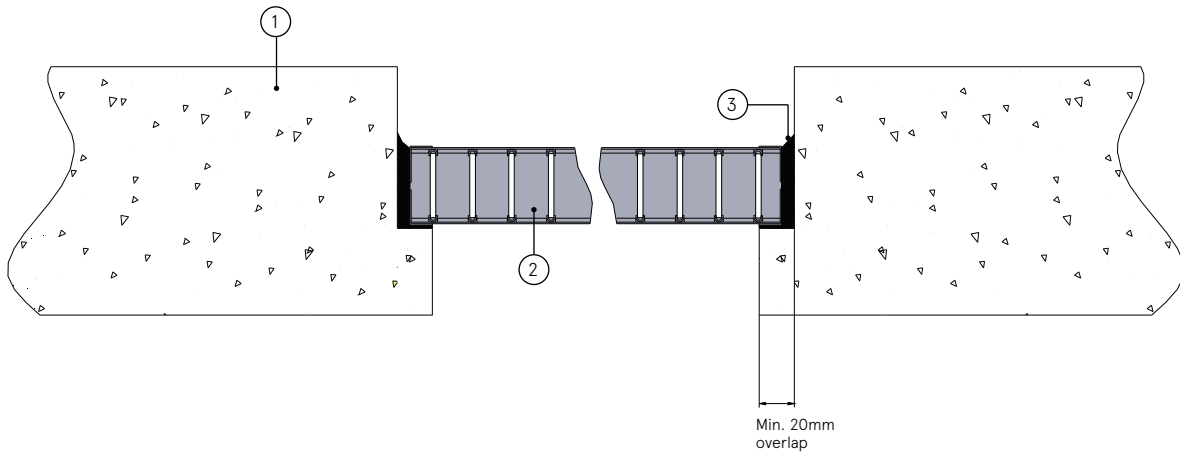
LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix the Z sections to the masonry floor using masonry anchors.
- ▶ Insert LVH44 into masonry floor opening (note: air transfer grille does not have to be centrally positioned in the opening).
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of metal sleeve as shown (note: maximum clearance of 10mm applies).
- ▶ Connect ductwork (or cover grille) directly to floor using approved breakaway connections to ensure compliance.

# FLOOR 5

## MASONRY FLOOR USING PRE-CAST SLAB TO SUIT



### DESCRIPTION


- 1 Pre-cast concrete slab
- 2 LVH44 air transfer grille
- 3 Lorient intumescent sealant around LVH44 perimeter to a maximum clearance of 10mm

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Lorient intumescent sealant

 Note: If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

## Masonry floor using pre-cast slabs to suit FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AF3)

### Max single cell size

600 x 600mm

Larger sizes can be used with different mounting detail.

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Prepare slab with cast in ledges (minimum 20mm overlap of ledge with LVH44).
- ▶ Mount LVH44 onto masonry floor opening.
- ▶ Apply a bead of Lorient intumescent sealant around the perimeter of air transfer grille between the LVH44 and the floor (note: maximum clearance of 10mm applies).
- ▶ Connect ductwork (or cover grille) directly to floor using approved breakaway connections to ensure compliance.

# FLOOR 6

## FIXING ON TOP OF MASONRY FLOORS WITH ANGLE FIXINGS

### DESCRIPTION

- 1 Masonry floor
- 2 LVH44 air transfer grille
- 3 Apply a bead of Lorient intumescent sealant around the edge of the LVH44
- 4 **Fixing angle:** 40 x 40 x 1mm thick minimum galvanised steel angles fixed to LVH44 unit with self tapping screws and to wall with masonry anchors

**Fixing option 1:** Full width angles top and bottom only with 200mm fixing centres

**Fixing option 2: (Ideal for fire rating poorly prepared openings):** Angles central to all four sides or at 200mm maximum centres

### CONTENTS

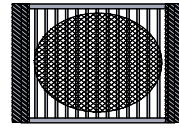
- LVH44 air transfer grille

### TOOLS REQUIRED

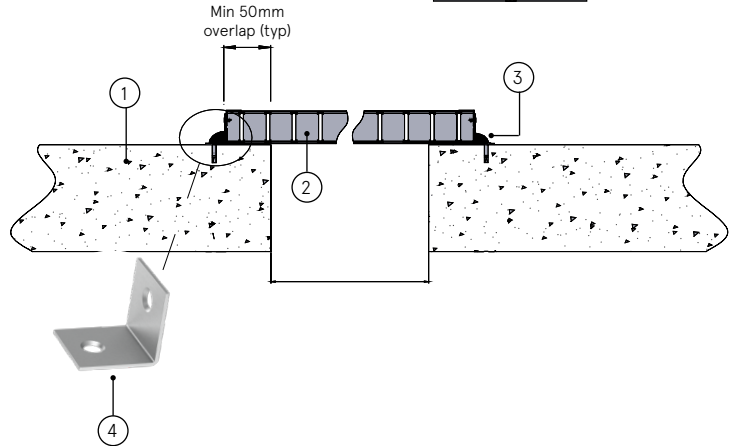
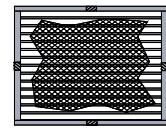
- Lorient intumescent sealant
- Self tapping screws (3.2mm x 16mm)
- Masonry anchors
- Fixing angle (40 x 40 x 1mm)

**Note:** If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### FIXING OPTION 1



### FIXING OPTION 2



### Fixing on top of masonry floors with angle fixings

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AF5)

### Max single cell size

600 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Measure penetration ensuring air transfer grille is 50mm larger than penetration in masonry floor.
- ▶ Fix the mounting angles onto the LVH44 unit using self tapping screws.
- ▶ Apply a bead of Lorient intumescent sealant around the edge of the LVH44.
- ▶ Mount air transfer grille onto masonry floor opening.
- ▶ Fix the angles to the masonry floor with masonry anchors.
- ▶ Connect ductwork (or cover grille) directly to floor using approved breakaway connections to ensure compliance.

# FLOOR 7 MODULAR SYSTEMS

## FOR MASONRY FLOORS

### DESCRIPTION

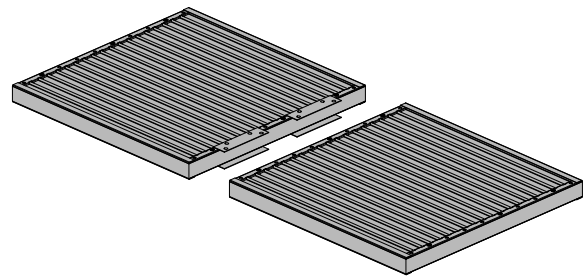
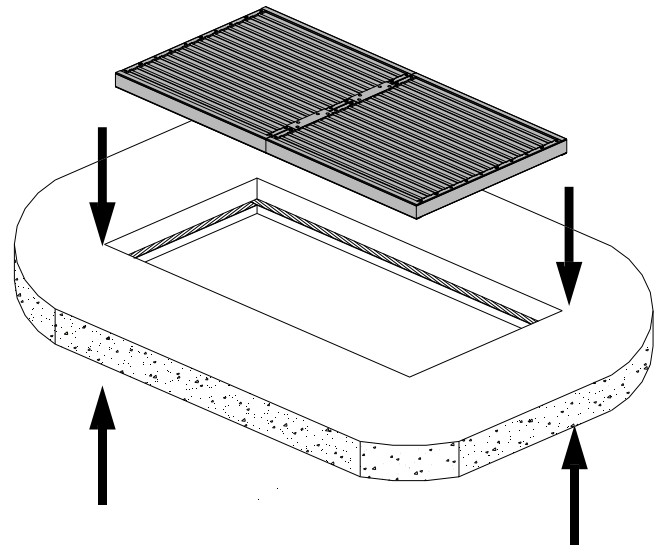
- 1 Use fixing systems below to mount modular LVH44 in floor:
  - ▶ Floor 3
  - ▶ Floor 4
  - ▶ Floor 5
- 2 Insert Lorient intumescent sealant between modules
- 3 For modular systems a 10mm (min) clearance around perimeter is required
- 4 Air transfer grille locates within tab sections

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Lorient intumescent sealant
- Self tapping screws (3.2 x 16mm)
- Masonry anchors



▶▶ Note: If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### Masonry floor modular system

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (AF6)

### Max single cell size

1200 x 600mm

Please consult the Lorient Technical team for larger sizes

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

This system can be installed using any one of the following three Systems:

**Floor 3: ANGLE FIXING DETAIL** (using continuous perimeter angles are required)

**Floor 4: Z SECTION FIXING DETAIL** (using continuous perimeter angles are required)

**Floor 5: PRE-CAST SLAB FIXING DETAIL**

- ▶ Slide the air transfer grille modules together ensuring a bead of Lorient intumescent sealant is used in between LVH44 modules (secure with self tapping screws).
- ▶ Refer to the relevant systems above for specific mounting detail alternatives.
- ▶ Apply bead of Lorient intumescent sealant around perimeter of LVH44 between air transfer grille and floor.
- ▶ Fix the angles to the masonry floor with masonry anchors.

# FLOOR 8 MODULAR SYSTEMS

## FIXING ON TOP OF MASONRY FLOORS WITH ANGLE FIXINGS

### DESCRIPTION

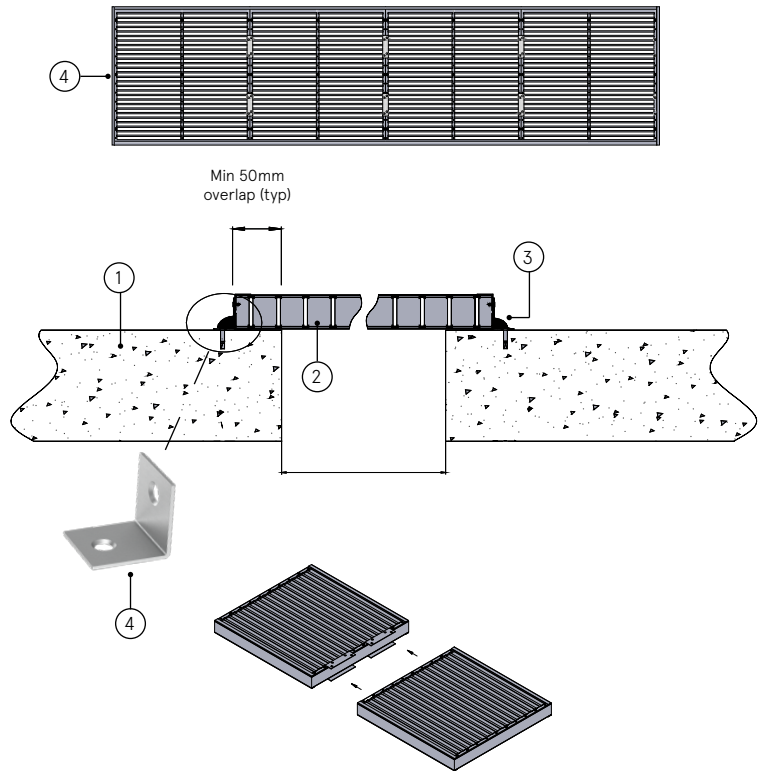
- 1 Masonry floor
- 2 LVH44 air transfer grille
- 3 Apply a bead of Lorient intumescent sealant around the edge of the LVH44
- 4 **Fixing angle:** 40 x 40 x 1mm thick minimum galvanised steel angles fixed to LVH44 unit with self tapping screws and to wall with masonry anchors to entire perimeter.

### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Lorient intumescent sealant
- Self tapping screws (3.2mm x 16mm)
- Masonry anchors
- Fixing angle (40 x 40 x 1mm)



**Note:** If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### Fixing on top of masonry floors with angle fixings

#### FR120

#### Fire Resistance in accordance with

BS 476-22:1987

#### Approval Ref

WFRC C121316 (AF7)

#### Max single cell size

2400 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

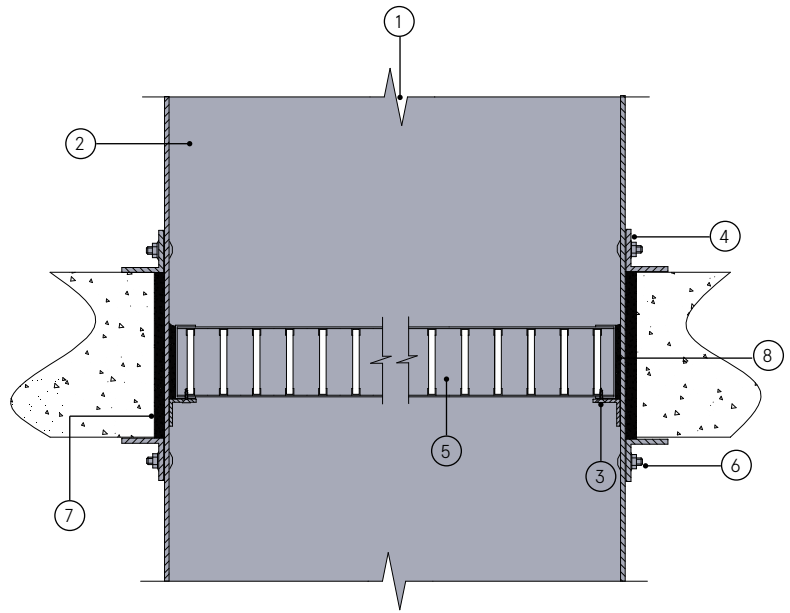
- ▶ Measure penetration ensuring air transfer grille is 50mm larger than penetration in masonry floor.
- ▶ Slide the air transfer grille modules together ensuring a bead of Lorient intumescent sealant is used in between LVH44 modules (secure with self tapping screws).
- ▶ Fix the mounting angles onto the LVH44 unit using self tapping screws.
- ▶ Apply a bead of Lorient intumescent sealant around the edge of the LVH44.
- ▶ Mount air transfer grille onto masonry floor opening.
- ▶ Fix the angles to the masonry floor with masonry anchors.

# FLOOR 9

## MASONRY FLOOR (DUCT TO DUCT)

### DESCRIPTION

- |   |  |
|---|--|
| 1 | Independent duct fixing complete with breakaway joints                             |
| 2 | Light gauge galvanised casing  |
| 3 | Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws |
| 4 | Mounting angles  |
| 5 | LVH44 air transfer grille inclusive of casing                                      |
| 6 | M5 bolts for mounting angles.  |
| 7 | Lorient intumescent sealant between casing and concrete slab                       |
| 8 | Lorient intumescent sealant between LVH44 and casing                               |



### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Self tapping screws (3.2mm x 16mm)
- Masonry anchors
- Mounting flange
- Supporting bracket (20 x 20 x 1mm)
- Lorient intumescent sealant

▶▶ **Note:** If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### Masonry floor (duct to duct)

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (F1)

### Max single cell size

1200 x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

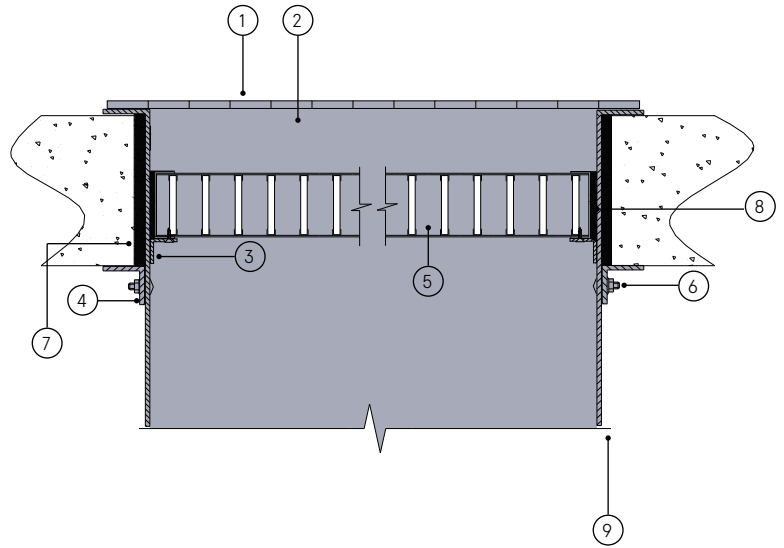
- ▶ Fix a supporting bracket into the duct section either welded in place, or using M3 bolts.
- ▶ Fix the LVH44 into duct and seal around the perimeter with intumescent sealant.
- ▶ Fix to supporting angles with 3.2mm x 16mm self tapping screws.
- ▶ Check the mounting flange size is not less than twice the clearance between the LVH44 and opening.
- ▶ Fit one set of mounting flanges to the LVH44 assembly and lower the air transfer grille assembly into the floor opening. Ensure the assembly sits squarely and penetrates the floor opening.
- ▶ Fill the outside perimeter of the LVH44 with Lorient intumescent sealant.
- ▶ Fit mounting flanges on underside of floor using M5 bolts. Ensure flanges are hard against the floor and the fixings are adequately tightened. Check the LVH44 assembly sits squarely in the opening.
- ▶ Connect ductwork directly to floor using approved breakaway connections to ensure compliance.
- ▶ Apply a bead of Lorient intumescent sealant between casing and the floor (note: maximum clearance of 10mm applies).
- ▶ Ensure convenient access is provided for easy inspection and cleaning as necessary.

# FLOOR 10

## MASONRY FLOOR (DUCT TO GRILLE)

### DESCRIPTION

- 1 Load bearing cover grate required
- 2 Light gauge galvanised casing
- 3 Damper retaining bracket 1mm galvanised steel fixed with short self tapping screws
- 4 Mounting angles
- 5 LVH44 air transfer grille
- 6 M5 bolts for mounting angles.
- 7 Lorient intumescent sealant between casing and concrete slab
- 8 Lorient intumescent sealant between LVH44 and casing
- 9 Independent duct fixing complete with breakaway joints.



### CONTENTS

- LVH44 air transfer grille

### TOOLS REQUIRED

- Self tapping screws (3.2mm x 16mm)
- Masonry anchors
- Mounting flange
- Supporting bracket (20 x 20 x 1mm)
- Lorient intumescent sealant

**▶▶ Note:** If no reticulating ductwork is above the slab a protective and load-bearing grate is necessary.

### Masonry floor (duct to grille)

## FR120

### Fire Resistance in accordance with

BS 476-22:1987

### Approval Ref

WFRC C121316 (F2)

### Max single cell size

600mm x 600mm

LVH44 air transfer grilles are supplied 2mm less than the nominal size e.g. a 300mm x 300mm is actually 298mm x 298mm.

### INSTALLATION INSTRUCTIONS

- ▶ Fix supporting bracket into the duct section either welded in place, or using M3 bolts.
- ▶ Fix the LVH44 into duct and seal around the perimeter with intumescent sealant.
- ▶ Fix to supporting angles with 3.2mm x 16mm self tapping screws.
- ▶ Check the mounting flange size is not less than twice the clearance between the LVH44 and opening.
- ▶ Lower the LVH44 into the floor opening.
- ▶ Fill the outside perimeter of the LVH44 with Lorient intumescent sealant.
- ▶ Fit mounting flanges on underside of floor using M5 bolts. Ensure flanges are hard against the floor and the fixings are adequately tightened. Check the LVH44 assembly sits squarely in the opening.
- ▶ Apply a bead of Lorient intumescent sealant between casing and the floor (note: maximum clearance of 10mm applies).
- ▶ Ensure convenient access is provided for easy inspection and cleaning as necessary.