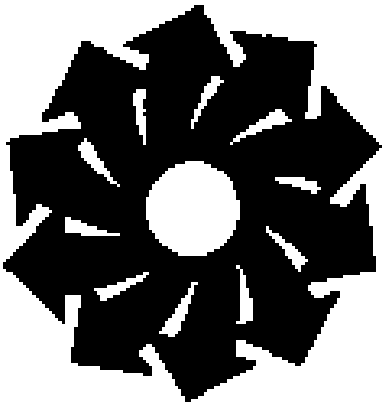


# Installation frame for fire dampers complying with the requirements of the Greater London Council

HEVAC 6/5/83 rev 1      April 2002

(This HEVAC specification supersedes the original specification *HVC 6/5/83* which was approved in 1983)

## HEVAC Technical Specification



HEVAC  
ASSOCIATION

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## 1 GENERAL

### 1.1 History

During the early 1980's there was a need to produce specific guidance on the construction and installation of frames for fire dampers. This was largely as a result of the requirements of the Greater London Council at the time. In conjunction with the GLC and the Heating and Ventilation Contractors Association (HVCA), the Fire and Smoke Damper committee within HEVAC produced the joint HEVAC/HVCA specification number HVC6/5/83.

As a result of advances in materials and production processes, the Fire and Smoke Damper committee has now produced this revision. Changes have been kept to a minimum and HEVAC consulted with the BRE Fire testing laboratory and Warrington Fire Research Centre during its drafting.

### 1.2 Scope

This specification describes an installation frame for fire dampers complying with the requirements of the former Greater London Council.

### 1.3 Purpose

The installation frame is designed to be factory assembled on to a spigotted or un-spigotted fire damper. When fitted into a fire barrier, this frame will, under fire conditions, allow the damper to expand without distortion. Upstand flange webs with fixing tabs should be built into the surrounding structure to ensure that the complete assembly is retained within the structural opening.

### 1.4 Principle

The installation frame is designed to restrict the passage of smoke or flame between it and the fire damper casing. The aluminium rivets where used in the construction of the installation frame shall not inhibit expansion of the frame components under fire conditions.

## 2 MATERIAL

Where galvanised sheet steel is referred to herein, it shall be understood to refer to strip mill cold reduced sheet, hot-dip zinc coated in accordance with BS EN10142 to bending and profile quality coating grade Fe PO2 G (formerly Z2/G275). However, subject to certification/assessment, other materials can be used.

## 3 CONSTRUCTION

3.1 Spigotted or un-spigotted type fire dampers may be provided with a factory assembled installation frame, which shall be constructed from galvanised sheet steel of minimum thickness of 1.6 mm (16 SWG), unless a thinner material has been successfully fire tested or assessed, to suit ductwork of sizes up to 1000 x 1000 mm, or larger as successfully fire tested or assessed.

3.2 A factory assembled installation frame may be provided and fitted to a double module assembly not exceeding an overall ductwork size of 1524 x 1016mm (split on the larger

dimension) or such dimensions that have been successfully fire tested or assessed and accepted by the local fire authority.

3.3 Each corner of the installation frame shall be open, with a clearance space for expansion. These corners shall be retained by preformed corner angles 60mm x 60mm of galvanised sheet steel of a minimum thickness of 1.6mm (16 SWG), with the mitres continuously welded, or pressed, to maintain the integrity of the corners. Each preformed corner angle shall be fixed to the installation frame by four 5mm (3/16") diameter aluminium rivets.

3.4 The installation frame shall be shaped so as to provide closely fitting flanges to cover the fire damper casing, and shall have a minimum overlap of 19mm on all sides.

3.5 The installation frame shall consist of two sub-assemblies to form a complete assembly with an upstand flange web of 15mm - 0 +5 around the periphery of the frame, positioned mid-way across the depth of the frame, such webs being joined together at the fixing tab points.

3.6 The number of fixing points will be related to the width, height or diameter of ductwork as follows:

Duct dimension mm	Number of equally spaced fixing points per side of frame
up to 508	1
509 to 1016	2
1017 to 1524	3

3.7 Each fixing point shall consist of four tabs of minimum width of 12mm formed from galvanised sheet steel of a minimum thickness of 0.9mm (20 SWG), each to have not less than 75mm free length for positive fixing into the surrounding builders work to maintain structural integrity.

3.8 The fixing tabs shall be attached through slotted holes (12mm long parallel to the frame) in the upstand flanges by 5mm (3/16") diameter monel or stainless steel rivets.

#### 4 EXPANSION

To enable expansion to take place within the structural opening, minimum clearance shall be provided as follows:

- (a) 15mm between mitre corners of the installation frame.
- (b) 10mm on each side between the installation frame and the fire damper casing.

#### 5 PACKING

Regardless of the size of damper assembly, the clearance space on all sides shall be maintained by multi-folded corner spacer sections equal to the depth of the installation frame and formed from 0.9mm (20 SWG) galvanised sheet steel.

## 6 FIRE DAMPERS

In all other respects the fire dampers installed must comply with the relevant approved engineering specifications of each manufacturer.

## 7 FRAME INSTALLATION

7.1 The frame shall be installed centrally in the thickness of a brickwork or concrete surrounding wall or floor, or in the case of thick walls or floors, so that the centre line of the frame is at least 50mm away from the nearest face of the wall or floor in which the assembly is mounted.

7.2 Where in item 3.7. foregoing, the term "positive fixing into the surrounding builders work" is mentioned, that term shall entail:

(a) in brickwork or blockwork walls the tabs shall be bent out and solidly built into the mortar joints between the brickwork or blockwork..

(b) in the case of reinforced concrete walls and floors, the tabs shall be bent out and tied with wire to the reinforcing bars which will be deliberately left protruding into the opening and then the gap between the installation frame and builders work backfilled with mortar or concrete on both sides of the flange.

7.3 Adjacent frame assemblies must be separated by builders work of a minimum thickness of 225mm (between installation frame upstand flanges) unless approval has been previously obtained from the appropriate authority.

7.4 Where two fire dampers, or two double module assemblies are mounted in series to form a factory assembled four hour unit, each damper or double module assembly comprising the unit shall be provided with its own installation frame so as to allow each individual damper or double module assembly to expand under fire conditions.

7.5 In no case shall the HEVAC frame and damper assembly be held in position merely by the adjacent ductwork, and it should be noted that in reinforced concrete structures (especially floors), it will not be sufficient to only backfill between the damper installation frame and the surrounding opening with mortar or fine aggregate concrete mix without provision for tying in the frame to the surrounding reinforced concrete structure.

7.6 The work shall be carried out to the satisfaction of the appropriate authority. Any deviation must have similar approval.