

ASFP Advisory Note 15:

ASFP position on the Interchangeability of Supporting Construction for Firestopping.

Introduction

It is a requirement in Building regulations that compartmentation is utilised as a means of minimising the spread of fire within a building. Compartmentation is achieved by building walls with a known fire resistance performance. Wherever there are joints, holes and services considered in BS EN1366-3:2021, passed through the wall, firestopping is used to reinstate the fire resistance performance.

In reality, a wide variety of different wall constructions are used on site. It is not practical to test the identical firestopping specification in conjunction with all possible wall constructions. This guidance document has been produced to clarify the rules provided in BS EN1366-3:2021 and/or BS EN1366-4:2021 and should not be used for systems tested generally in accordance with an ad-hoc BS476 approach.

Regulation/Requirements

Wall Constructions are tested in accordance with BS EN1364-1:2015 and then classified for fire resistance in accordance with BS EN13501-2:2016. The classifications consider the performance of a wall, integrity and insulation in a fire situation.

To adopt this approach, firestop systems must be tested in accordance with BS EN 1366-3:2021 and/or BS EN1366-4:2021, and then classified according to BS EN13501-2:2016.

The overall fire performance classification of the compartmentation is limited by the lowest classification of the wall and/or the penetration seal/linear gap seal. Test results obtained with the standard flexible wall constructions according to BS EN1366-3:2021 and/or BS EN1366-4:2021 cover flexible wall constructions of equal or lesser fire resistance classification provided the walls conform with the guidance given in table 1 of this document. The design of the openings, size and location, within the wall must be acceptable to the system owner of the flexible wall construction.

ASFP Guidance

In order to offer guidance, as to areas where differences are allowed between the tested wall system and the constructed wall, the ASFP has produced the following notes and table overleaf indicating typical permitted and prohibited substitutions as defined in BS EN1366-3:2021 and/or BS EN1366-4:2021.

Guidance Notes

The supporting construction shall have an overall thickness not less than the minimum thickness tested and certificated. For advice regarding the positioning of installed intumescent closing devices, consult BS EN1366-3:2021.

Non-symmetrical wall constructions can be tested, provided they are tested with exposure from both sides, and meet the minimum thickness requirement. However, non-symmetrical walls can be used in practice, based on symmetrical wall testing, provided the asymmetry is an addition to the tested wall without any reduction in the thickness / geometry of the tested components.

In the case of penetration seals installed within the wall and where a flexible wall with insulation was used in the test an aperture framing shall be used in practice. The aperture frame and aperture lining shall be made from studs and boards of the same specification as those used in the wall in practice. The thickness of the aperture lining shall be minimum 12,5 mm.

The number of board layers and the overall board layer thickness is equal or greater than that tested when no aperture framing is used. When a minimum 12.5mm aperture lining is used, board layer thickness may be reduced, provided the overall wall thickness is equal to or greater than that tested.

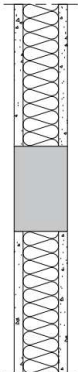
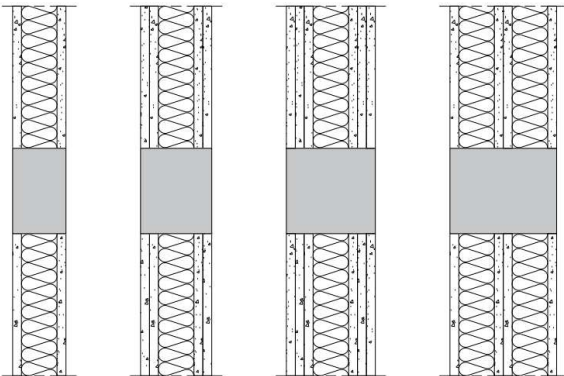
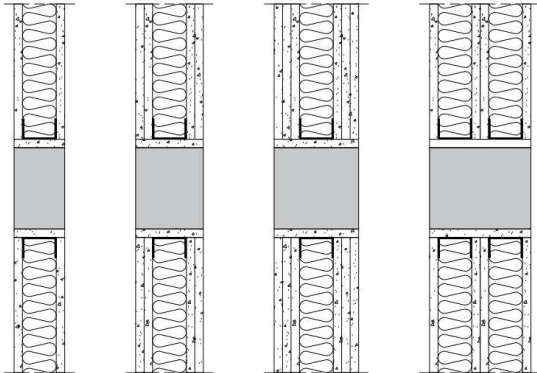
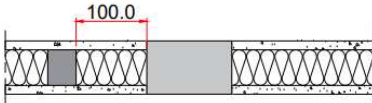
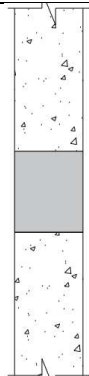
An aperture framing is considered as being part of the penetration seal. Tests without an aperture framing will cover applications with aperture framing but not vice versa.

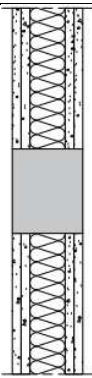
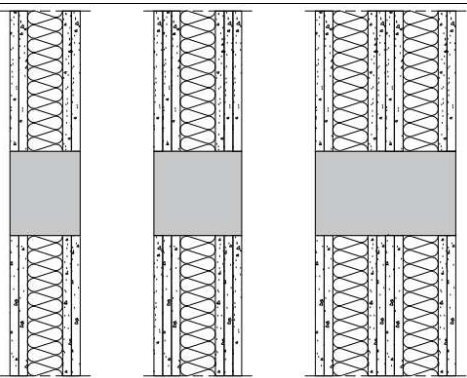
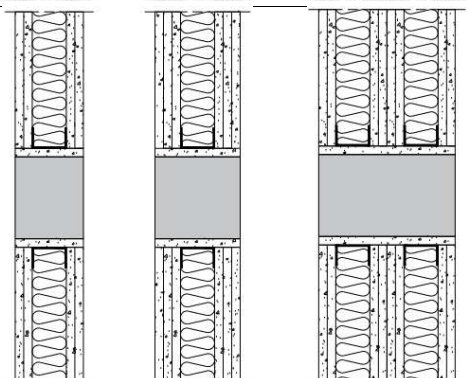
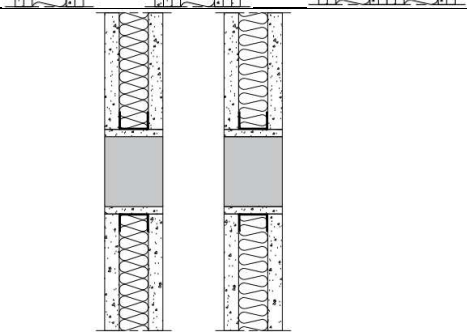
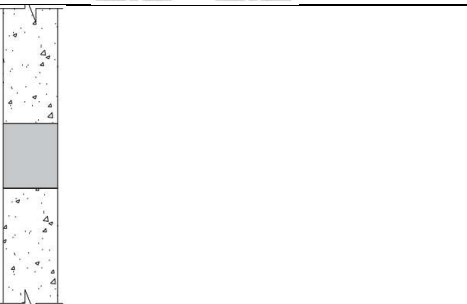
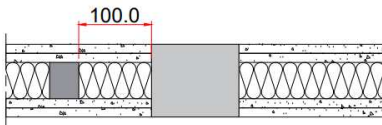
Flexible wall constructions with timber studs have guidance within BS EN1366-3:2021 and/or BS EN1366-4:2021.

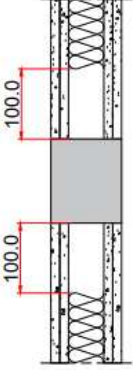
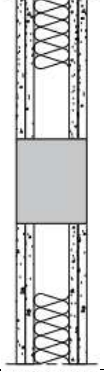
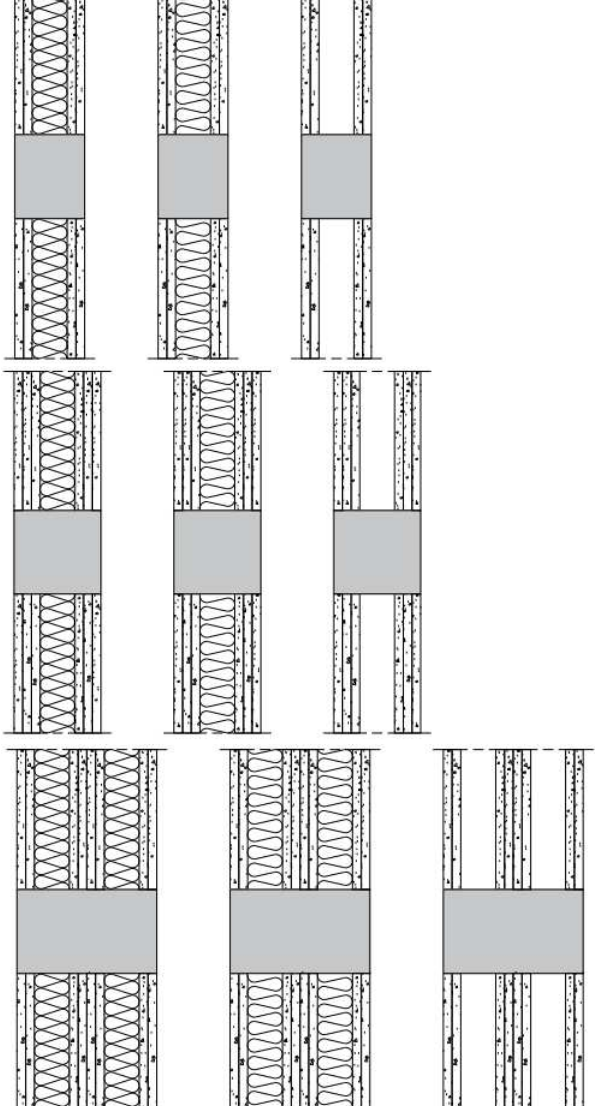
The table overleaf provides guidance but is not all encompassing. In case of other wall constructions consult BS EN1366-3:2021 or BS EN1366-4:2021 as appropriate. The guidance in this document can also be used to justify interchangeability of supporting construction tested to the previous versions of BS EN1366-3 and/or BS EN 1366-4.

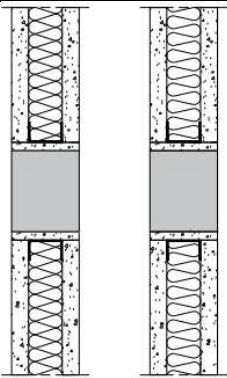
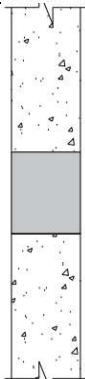
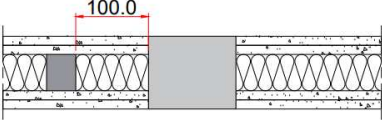
ASFP further recommends that any firestopping products be 3rd Party certificated as fit for purpose and installed by third party certificated installers operating under a UKAS accredited third party certification scheme for contractors.

Overleaf are tables showing permitted and prohibited wall construction substitutions

Construction tested	Constructions covered (vertical section except stated otherwise)
	a) Flexible wall constructions with the same or higher number of board layers of the same or higher overall lining thickness on each side of the wall and the same insulation as tested 
	b) Flexible wall constructions with the same or higher number of board layers of the same or higher board thickness as tested on each side of the wall, with an aperture framing and insulation of any type 
	Flexible Wall Constructions with timber studs, constructed with at least the same number of layers. No part of the penetration seal closer than 100mm to any stud or nogging piece the cavity closed between the penetration seal and the stud/nogging piece with minimum 100mm of insulation of class A1 or A2 in accordance with EN 13501-1  Horizontal Section
Rigid wall constructions with an overall thickness equal to or greater than tested, and a minimum density of 350 kg/m³.	

Construction tested	Constructions covered (vertical section except stated otherwise)			
	a) Flexible wall constructions with the same or higher number of board layers of the same or higher overall lining thickness on each side of the wall and the same insulation as tested			
	b) Flexible wall constructions with the same or higher number of board layers of the same or higher board thickness as tested on each side of the wall, with an aperture framing and insulation of any type			
	c) Flexible wall constructions with an aperture framing with a reduced number of board layers but the same or higher overall lining thickness as tested, with insulation of any type			
	a) Rigid wall constructions with an overall thickness equal to or greater than tested, and a minimum density of 350 kg/m ³			
	Flexible Wall Constructions with timber studs, constructed with at least the same number of layers. No part of the penetration seal closer than 100mm to any stud or nogging piece the cavity closed between the penetration seal and the stud/nogging piece with minimum 100mm of insulation of class A1 or A2 in accordance with EN 13501-1			
 Horizontal Section				

Construction tested	Constructions covered (vertical section except stated otherwise)		
	a) Flexible wall construction as tested		
	b) Flexible wall constructions with the same or higher number of board layers of the same or higher board thickness as tested on each side of the wall, with insulation of any type or without insulation		

	c) Flexible wall constructions with an aperture framing with a reduced number of board layers but the same or higher overall lining thickness as tested, with insulation of any type	
	d) Rigid wall constructions with an overall thickness equal to or greater than tested, and a minimum density of 350 kg/m ³	
	Flexible Wall Constructions with timber studs, constructed with at least the same number of layers. No part of the penetration seal closer than 100mm to any stud or nogging piece the cavity closed between the penetration seal and the stud/nogging piece with minimum 100mm of insulation of class A1 or A2 in accordance with EN 13501-1  Horizontal Section	

Aperture framing shall be made of studs and/or boards of the same specifications as those used in the wall installed in practice. The thickness of the boards used for the aperture framing shall be minimum 12.5mm. for circular apertures a dimensionally stable sleeve made of class A1 or A2 in accordance with EN 13501-1 shall be used.

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