TERRAIN

Technical Bulletin 12

Fire Stopping

Drainage pipework that breaches fire rated compartment walls and/or floors can compromise building compartment fire rating requirements if fire protection is not provided to the pipework.

The size of the opening is a major factor in the spread of heat, flame and smoke and should be restricted to maintain the integrity of the fire compartment.

BS 9999:2008: Code of practice for fire safety in the design, management and use of buildings defines the minimum fire stopping requirement

Table 33: Maximum nominal interior diameter of pipes passing through a compartment wall/floor. Dimensions in millimetres

Situation	Maximum nominal internal diameter		
	a) Non-combustible material [A]	b) Lead, aluminium, aluminium alloy, PVC [B], fibre-cement	c) Any other material
1) Structure (but not a wall separating buildings) enclosing a protected shaft which is not a stairway or a lift shaft	160	110	40
2) Compartment wall or compartment floor between flats	160	160 (stack pipe) [C] 110 (branch pipe) [C]	40
3) Any other situation	160	40	40

[A] A non-combustible material (such as cast iron or steel) which if exposed to a temperature of 800°c, will not soften or fracture to the extent that flame or hot gas will pass through the wall of the pipe.
[B] uPVC pipes conforming to BS 4514 and uPVC pipes conforming to BS5255.
[C] These diameters are only in relation to pipes forming part of an above-ground drainage system and enclosed as shown in Figure 30. In other cases the maximum diameters against situation 3) apply

Pipes that pass through a compartment wall or compartment floor (unless the pipe is in a protected shaft), or through a cavity barrier, should be in accordance with one of the following alternatives.

a) For proprietary seals of any pipe diameter, a proprietary sealing system may be provided that has been shown by test to maintain the fire resistance of the wall, floor or cavity barrier.

b) For pipes with a restricted diameter, where a proprietary sealing system is not used, fire-stopping may be used around the pipe (see 33.5), keeping the opening as small as possible. The nominal interior diameter of the pipe should be not more than the relevant dimensions given in Table 33. The diameters given in Table 33 for pipes of material b) used in situation 2) assume that the pipes are part of an above-ground drainage system and are enclosed as shown in Figure 30. If they are not, the smaller diameter given in situation 3) should be used.

c) A pipe of lead, aluminium, aluminium alloy, fibre-cement or PVC, with a maximum nominal diameter of 160mm, may be used with a sleeving of non-combustible pipe as shown in Figure 31.

Tests carried out in accordance with BS EN 1366-3 are specific to service penetrations. Ad hoc tests should only be used where directly relevant to the application.

As can be seen from the above table recommendations are given that apply to Terrain PVC-u pipework.

Pipes that pass through a fire rated compartment wall/floor or cavity barrier should be in accordance with one of the following:

a) Proprietary seals of any pipe diameter, a proprietary sealing system may be provided that has been shown during third party testing to maintain the fire rating of the wall, floor or cavity barrier.

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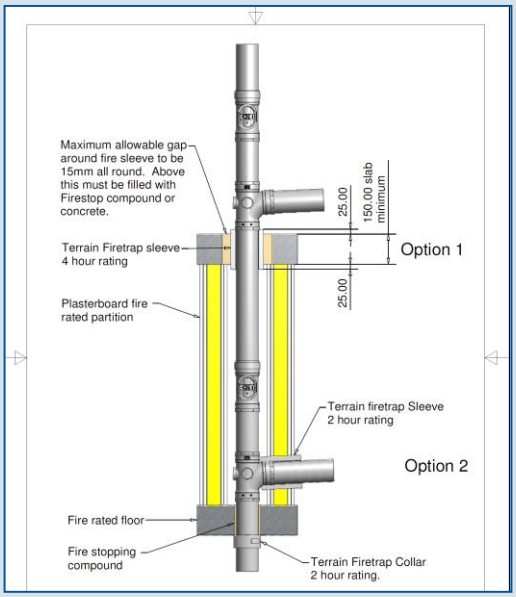
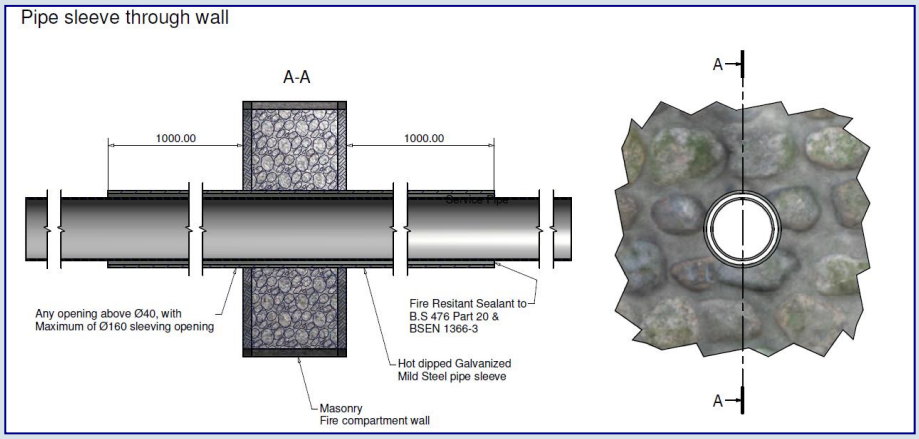


Terrain Firetrap sleeves and collars comply with BS 476 Part 20 and BS EN 1366-3

b) For pipes with a nominal internal diameter of 40mm or less a proprietary sealing system is not required, however, fire stopping of the hole around the pipe may be required.



c) PVCu pipework with a maximum nominal diameter of 160mm may be used with a sleeving of non-combustible pipe.

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