

KNOWLEDGE SHARE: 003

TITLE: SHAFT WALLS & SERVICES PENETRATIONS
BUILDING TYPE: ALL BUILDINGS

OVERVIEW OF THE PROBLEM

Any service that penetrates a compartment wall must be sealed to ensure that the original fire compartment requirement is maintained. To demonstrate a specified fire resistance, penetration sealing products must be tested in accordance with published relevant EN test standards. The current test standard suite BS EN 1366 considers shaft wall systems in the UK as asymmetrical flexible wall system, as a non-standard supporting construction.

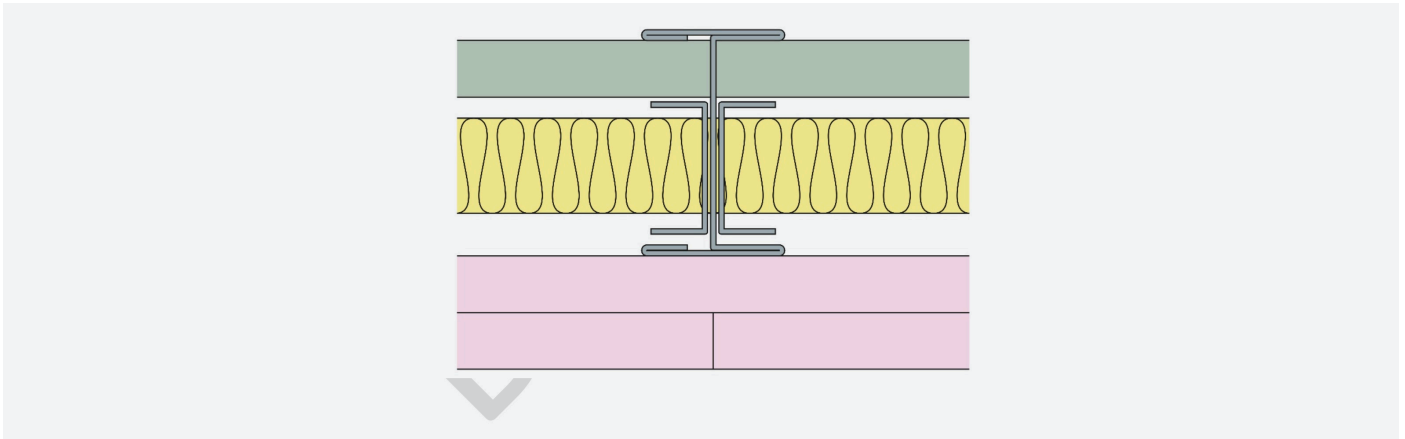


Figure 1: Example of Shaft Wall (Image courtesy of British Gypsum).

www.british-gypsum.com/specification/white-book-specification-selector/white-book-overview/shaftwall-systems

WHY IS THIS A PROBLEM?

This is a problem because extremely few fire resistance tests have been carried out for services penetration seals in UK specific shaft wall, therefore there are very limited tested or certified details that can be applied in practice. This can present a fire compliance risk where building services penetrate shaft wall because there is no data to evidence the fire resistance of the system (i.e., shaft wall, services, and penetration sealing material).

RECOMMENDATIONS

It is recommended that general wall compatibility checks are carried out (See Knowledge Share 002).

If there are services penetrations in shaft wall and there are no suitable tested or certified details available, then steps should be sought to divert services away from shaft walls or to change the shaft wall systems to a standard wall type that has been demonstrated to be compliant (e.g., symmetrical drylining or blockwork) as a system.

If these options are unsuitable, further steps should be taken to provide evidence that the system (i.e., services, penetration sealing materials, and shaft wall) meets the fire resistance requirements of the compartment. This could be achieved through furnace testing or third party assessment of the system by an independent body in accordance with the Passive Fire Protection Forum (PFPF) Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence.