

# QF2 FIRE PROTECTION COMPOUND INSTALLATION INSTRUCTIONS

This installation guide is intended for general information only and all details should be checked against relevant supporting test evidence and certification.



QF2 Fire Protection Compound is intended for use as a gap filling material where cables, ducts or pipework services penetrate fire compartment floors and walls. QF2 expands slightly on curing (0.1%), to form a rigid seal and is also suitable for use in load bearing situations.

## YIELD

One square metre at 100mm thickness requires approx. 4 x 20kg sacks of QF2 Fire Protection Compound and will provide a loadbearing 4 hour rated fire seal.

## PACKAGE AND STORAGE

Supplied in 20kg bags which must be stored in dry conditions. Shelf life, in an unopened bag is typically 12 months.

## HEALTH & SAFETY

QF2 Fire Protection Compound contains gypsum plaster and natural, or heat processed aggregates. Appropriate protective clothing, including gloves, dust mask, safety glasses, should be worn, especially during mixing, to guard against dust inhalation, eye damage and skin irritation.

For further information, please refer to the Material Safety Data Sheet, available on request.

## MIXING

Mix with clean water in a plastic container, slowly adding the dry powder to water while stirring by hand or power mixer to ensure a smooth lump-free mix.

### Recommended mixes:

	Dry Powder / Water Ratio	
	By Volume	By Weight
Pourable / Floors	2 1/2 : 1	1.3 : 1
Stiff / Walls	3 : 1	1.9 : 1

Do not attempt to extend working time by remixing with more water after the mortar has started to set, as this will interfere with the setting process.

Always mix in clean buckets. Using dirty buckets containing remnants of mortar from earlier mixes, will accelerate the setting process and may reduce working time to as little as 10 minutes.

The wet mix will remain useable for approximately 45-60 minutes depending on batch size, water content and temperature. Any spillage should be wiped up with a damp cloth before setting occurs.

## WATERPROOFING

QF2 Fire Protection Compound is not waterproof and as it is mostly gypsum based will absorb water if exposed. It can potentially be treated with a 2-part epoxy paint in order to offer some waterproofing but it must be fully dried before application and we recommend a trial is carried out before application to check compatibility and adhesion.

## Installation Guidelines:

It is recommended that appropriate shuttering such as MW Mineral wool slabs should be cut to suit the penetration slightly oversize and around all penetrating services so when installed it will be a good friction fit. The MW Slab should be positioned towards the bottom of the hole to allow the correct depth of the QF2 Fire Protection Compound to be installed on top – normally a minimum of 100mm but this should be checked in accordance with the test evidence and recommendations.

Consideration should be given to any necessary temporary or permanent support that may also be required.

Once the MW Shuttering Slab is securely fitted, any necessary closure devices required around the service penetrations such as QWW Intuwraips to plastic pipes may be installed. The QF2 Fire Protection Compound can then be poured on top of the MW Shuttering Slab.

Once the QF2 Fire Protection Compound has cured, the shuttering can be removed so that the fire seal is visible. If retained, we recommend that the shuttering is at least cut back around the service so that the fire seal is visible and exposed to fire. All combustible materials such as plywood, must be removed, after the QF2 Fire Protection Compound has set.

Where the barrier is required to provide a load bearing capability, consideration should be given to structural support, such as reinforcing bars. Consideration may also be given to the use of a permanent shuttering system. In all loadbearing situations the QF2 Fire Protection compound thickness must be at least 100mm.

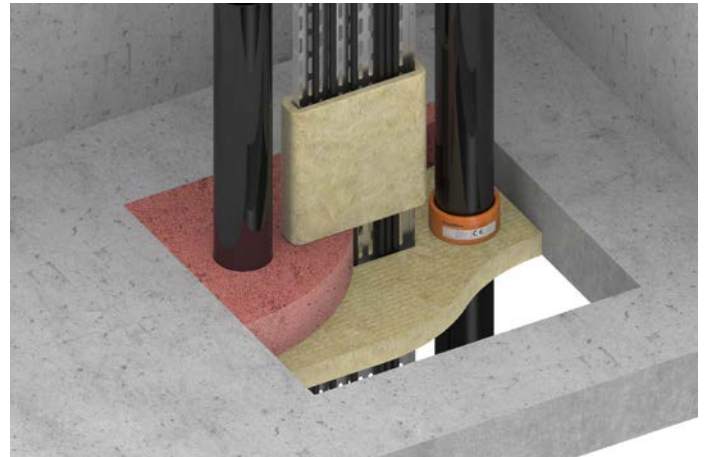
As the load bearing performance particularly in un-reinforced situations is dependent on compressive membrane action against the concrete slab edge or other rigid boundary, it is essential to check that this is vertical, before commencing installation.

Where the thickness of the seal is built up using multi layers, the structural strength of the seal may be reduced. It is therefore recommended, particularly in load bearing situations, that a maximum of 10% thickness is installed initially, and the remaining thickness applied as a further single operation. Building up the seal in several operations with the individual layers being allowed to set, will result in a weak laminated structure with severely reduced load bearing performance.

Cutting out part of the finished seal to accommodate additional services, must not be undertaken without review by a competent person, of the effect on the structural integrity of the seal and also to ensure that the seal will still fall within the tested scope of application.




There are several different types of service penetration and each requires a different approach to fire stopping. Some service penetrations require additional Quelfire products as part of the overall seal such as the QWW or QuelCoil Intuwraips, the QWR Fire Collar or even insulation wrapping around services.

We recommend you speak to the Quelfire Technical Team before commencing installation who will be able to provide you with further guidance, including detail drawings and the tested scope of application to help assist you with your project.



## Example Installation: Plastic Pipe penetrating an oversized hole through a concrete floor

### Quelfire Products used:

-  QF2 Fire Protection Compound
-  QWW Intuwrap
-  MW Shuttering Slab (mineral wool)

- 1.** Assess the scenario and identify a suitable tested application that covers the floor specification and type of service penetration.
- 2.** Make sure that the surfaces of the aperture and the services are clean of any debris and remove dust from all edges.
- 3.** Cut slightly oversized and friction fit the Quelfire MW Shuttering Slab into the opening around the services within the aperture ensuring a tight fit and that the correct minimum depth of the QF2 Fire Protection Compound (usually 100mm) can be achieved. Consider temporary support if required.
- 4.** Wrap the QWW Intuwrap around the plastic pipe and use the self adhesive tab to secure around the pipe.



- 5.** Ensure the QWW is tight around the pipe and is sitting flush on the MW Shuttering Slab.



- 6.** Mix the QF2 Fire Protection Compound with clean water in a plastic container or bucket by slowly adding the dry powder to the water whilst stirring by hand or power mixer to ensure a smooth lump-free mix. Refer to the recommend mix table on page 1, for the recommended dry powder to water ratio.

# QF2 FIRE PROTECTION COMPOUND INSTALLATION INSTRUCTIONS

- 7.** Pour the QF2 Fire Protection Compound into the opening around the services to the required thickness – minimum 100mm.



- 8.** Use a trowel to ensure the aperture is full and remove any excess QF2 Fire Protection Compound from around the opening.

- 9.** Use a Trowel to level the surface of the QF2 Fire Protection Compound and ensure a neat finish.



- 10.** Any spillages should be wiped up with a damp cloth before setting occurs.

- 11.** Allow 28 days for the QF2 Fire Protection Compound to fully 'cure'

- 12.** The MW Shuttering Slab can then be removed or alternatively may remain in place but we recommend cutting back the shutter so that the QWW is visible from the underside and exposed to fire. Any combustible shuttering such as plywood must be removed.

## Technical Support & Guidance:

Should you require any further information regarding this product, please do not hesitate to contact the technical department at Quelfire Ltd.

Tel: **0161 928 7308**. Email: [technical@quelfire.co.uk](mailto:technical@quelfire.co.uk)

Please be aware that this document is intended for general information only and all details should be checked against all relevant supporting test evidence, certification and installation guidelines.

Use of alternative components or deviations from the instructions in any way is likely to mean that the installation will not comply with the assessed rating.

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