

FIREFLYMortar

Technical Datasheet



Material Description

FIREFLYMortar is a gypsum-based mortar used to reinstate the fire resistance of floor constructions that have been penetrated by openings, either blank seals or with service penetrations. Supplied as a dry material, it is mixed with water to the desired consistency prior to installation.

Product Features

- Variable Mix Ratio - pourable/self-leveling through to hand mouldable consistencies can be prepared.
- Excellent Adhesion - will bond to concrete, metals, insulation and cable jacketing.
- Re-enterable without use of power tools - results in lower maintenance costs due to ease of making cable changes
- Maintains acoustic performance
- Expand slightly during curing, providing a reliable smoke and fire seal around service penetrations, while creating an excellent bond to surrounding masonry in larger openings

Applications & Limitations

- A design life exceeding 25 years can be expected.
- Not for outdoor use.
- FIREFLYMortar is not intended to be used as a structural element.

Product details

Material	Gypsum Mortar (Calcium Sulfate hemihydrate)
Weight	20kg
Finish /Colour	Light grey
Minimum Install Temperature	5°C
Fire Resistance Level (FRL)	Tested to AS1530.4:2014 and assessed in accordance with AS4072.1. For specific configurations and service penetrations see FAS230181
Shelf life	12 months if stored in accordance with storage conditions
Approximate Usage	600 x 600 mm (0.36m ²) @ 100mm depth requires approximately 2 x 20 kg bags

Installation

Suggested Tools | Safety glasses, dust mask, gloves, damp cloth or sponge, water spray bottle, pointing trowel, mixing bucket, mechanical paddle or paint stirrer.

Safety Information | Avoid inhalation & ensure adequate ventilation when mixing. The powder may cause eye, skin or respiratory tract irritation. See SDS for detailed Safety Information

FIREFLYMortar Mix Preparation

Before mixing | to hold the FIREFLYMortar in the aperture while it is curing (especially for pourable mixes and large openings), install shuttering or temporary forms to the underside of the opening with appropriate securement to support the mortar mix weight during cure. Forms and shuttering shall be removed once the FIREFLYMortar has set.

Add water to the mixing bucket first, then add FIREFLYMortar in stages whilst mixing using a drill grout mixer on a slow speed or mixing paddle. Avoid splashing and air entrainment.

Mix the FIREFLYMortar until it is homogeneous and smooth in a minimum of time to maximise the useable working life. Observe any un-mixed dry spots at the bottom edges of the bucket and ensure these are mixed in.

Mix ratios

Consistency	Mixing ratio by volume (Mortar: Water)
Pourable	3:1 (3 x 1 Litre scoops of FIREFLYMortar to 1 Litre of Water)
Trowel workable	4:1 (4 x 1 Litre scoops of FIREFLYMortar to 1 Litre of Water)
Hand Mouldable	5:1 (5 x 1 Litre scoops of FIREFLYMortar to 1 equivalent scoop of Water)

Higher ratios of water to powder will give longer workable life, however, do not add less than 2.8 x 1 Litre scoops of powder to 1 L of water, as too much water may result in a weaker than fire tested cure strength. Since temperature also significantly influences the cure rate and setting time, the work life may be extended using cold water. As a general guide– the work life can be doubled for every 10⁰ C reduction in mortar mix temperature.

Installation to the Aperture

1. Clean the opening surfaces and penetrating items, ensuring any dirt, rust, debris, grease, loose objects, or other materials that might hinder a good bonding are removed.
2. Mix water and FIREFLYMortar in the ratio to give the desired consistency detailed in the previous section.
3. Where an annular gap is needed between a Service Penetration and the FIREFLYMortar to accommodate FIREFLYMastic or FIREFLYMastic HP, wrap around the service with the required thickness of foam or bubble wrap to form a void for the full depth of the FIREFLYMortar–
 - a. For circular services, foam backing rod may be wound around the service, leaving a “tail” extending above the final level of the mortar. The backing rod can then be pulled out in an unwinding motion after the FIREFLYMortar has set (-30-60 minutes).
 - b. For irregular shapes such as cable trays, 120 mm wide or greater foam strip/roll form foam or bubble wrap may be more convenient to wrap around the service to form the annular gap for sealant.
4. Lightly wet down the surfaces to which the FIREFLYMortar will bond, using a water spray bottle or damp sponge. Concrete sides of the opening should be damp to avoid premature or excessive absorption of water from the freshly placed mortar.
5. Use a trowel to tool the FIREFLYMortar, ensuring it reaches difficult to fill areas and that it is firmly pushed against the sides of the opening.
6. Wipe any spills or wet splatter using a damp cloth or sponge before the FIREFLYMortar begins to set.
7. A pourable mix will remain at least trowelable (work-life) for approximately 20 minutes depending on the batch size, water content and mix temperature. Mix only the amount of FIREFLYMortar that can be installed during the work-life.
8. While FIREFLYMortar does not generally shrink at room temperatures, it is best to avoid using the product in extremes of hot and dry conditions as the FIREFLYMortar will set faster than desired and may result in shrinkage.
9. It is recommended to avoid bonding FIREFLYMortar directly to moving pipes. Apply water based acrylic sealant such as FIREFLYMastic as a bond breaker.

Handling and storage

- FIREFLYMortar is available in 20 kg bags.
- FIREFLYMortar is required to be stored in dry conditions.