



Product name	Silverseal HS Compound
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INTRODUCTION

Silverseal® HS Compound is a gypsum based mortar material, used to reinstate the fire resistance performance of floor constructions where they have been provided with apertures for the penetrations of multiple services. Silverseal® HS Compound is supplied as a dry material, and is mixed with water to the required ratio prior to installation.

Silverseal® HS Compound when mixed is self-supporting in a floor to spans of 1800mm. Temporary shuttering is required to support the wet weight of the Silverseal® HS Compound. The seal is high strength, non-combustible and is load bearing. Silverseal® HS Compound has a fire resistance to EN1366-3 up to EI120.

The advantages of the Silverseal HS Compound are as follows:

- Fire Integrity up to 4 hours
- Rapid setting, zero shrinkage formulation - can be used as pourable or trowel grade, gas tight seals
- Excellent workability ranging from stiff to pourable mix.
- Good load bearing Performance in floor seals. (Consult FSi Technical Team for details)




SPECIFICATION

Description	Grey coloured free flowing powder.
Density	1750-1900 Kg/m ³
Loadbearing	2.5k N/m ² UDL
Fire Resistance	EN1366 EI 120 / E120 / 240mins
Classification	EN13501:2
Acoustic Performance R'w (C; Ctr) (dB)	50 dB reduction at 100 mm
Max Unsupported Span	1800 mm (consult FSi for larger spans)
Thermal Conductivity (U Value) @100mm	0.45 - U Value I / 'R' 4.5
Thermal Resistance 'R' (t/k) @100mm	0.22
Expansion on Setting (%)	0.1

Silverseal® HS Compound is intended for sealing around all types of M&E service penetrations through floors and walls, where a rigid seal is required. The unique Silverseal® HS Compound enables even the most demanding applications to be covered.

Mixing

Silverseal® HS Compound can be mixed preferably by mechanical paddle or manually if required. Measure out the correct amount of clean water into a clean container to achieve the desired consistency.

(Silverseal® HS Compound: water ratio):

Pourable Mix ratio of 3 - 3½: 1

Trowelable Mix ratio of 4: 1

Gradually add the Silverseal® HS Compound stirring continually. Continue mixing until the Silverseal® HS Compound is mixed to a smooth even consistency. Any spillage should be wiped up with a damp cloth before setting occurs. May stain Pipes and services. Mix only enough material sufficient for use within the recommended pot life (20-30 minutes). Pot life and set times will be reduced for lower water content and higher temperatures.

Installation should not be carried out when temperatures are above 35°C. Setting times are normally between 30 and 90 minutes. Warning: Do not attempt to extend working time by remixing with additional water once the mortar has started to set, as this will interfere with the setting process. Always mix in clean buckets. Using dirty buckets containing remains of compound from earlier mixes may reduce working time.

Fit damming board/shuttering to bottom of opening. Damming materials must be able to support the wet weight of the compound under pouring conditions. Pour Silverseal® HS Compound to the required 100mm thickness.

Load Bearing Floor

Seals in a concrete slab opening, e.g. within a service riser, the unique combination of structural properties of Silverseal® HS Compound, particularly Silverseal® HS Compound, enables the finished seal to support considerable loads, over quite large spans, without the need for steel reinforcement.

Wall Penetrations

Silverseal® HS Compound can be mixed and trowelled into a vertical opening, and worked around services without slumping. They can also be cast into blocks for building into larger openings, using a stiff mix of the same compound as bedding.

Load Bearing Seals around Unsupported Fire Dampers

Silverseal® HS Compound has been successfully tested at BRE around both single and multiple fire damper assemblies, supported only by the mortar, in wall and floor openings. The excellent crushing strength and shear resistance of Silverseal® HS Compound seal ensures that the installation frame will be retained in the wall or floor, if the ductwork should collapse, even when the HVAC Installation frame is not tied back to the structure.



Setting and Hardening

Unlike cement-based fire stopping mortars, FSi Silverseal® HS Compound achieve maximum wet strength in only about four hours after casting. Ultimate strength is reached when dry fully hardened. The drying time will be dependent on the prevailing ambient conditions.

Silverseal® HS Compound is available in 20kg sacks. Add powder to clean tap water to the required consistency and coverage. Silverseal® HS Compound is to be installed in accordance with installation requirements. Installation details and technical support are available from FSi technical department. Please contact FSi for Loadbearing calculations at all times.

**INSTALLATION**

Installation details and technical support are available from FSi technical department or on the internet at www.fsilttd.com

Wall Openings

For small holes and gaps, trowel a stiff mix into the opening to the correct depth. For larger holes, use an appropriate damming material to support the mix until it sets, or, if a fair faced finish is required to both sides, consider using a sandwich construction. Alternatively, the Silverseal® HS Compound may be pre- cast into convenient sized blocks, a stiff mix being used as a bedding mortar. All combustible services (Plastic Pipes etc.) should have a tested fire rated closure device/material fitted prior to the pouring of the Silverseal® HS Compound. These are typically FSi Intumescent pipe wraps.

Floor Openings

When sealing holes in floor slabs, appropriate shuttering must be installed, cut to fit tightly around any services within the opening, to support the wet mix until it sets. Non-combustible shuttering materials, such as mineral fibre slab, can be left in place, but combustible materials must be removed, after the mix has set. For complex penetrations it may be preferable, to initially form a thin seal around all services, with a nominal 5mm layer of the Silverseal® HS Compound mix. Once this has set, the remaining depth of seal, should be poured in one operation. All combustible services (Plastic Pipes etc.) should have a tested fire rated closure device/material fitted prior to the pouring of the Silverseal® HS Compound. These are typically FSi Intumescent pipe wraps.

Yield

Typical number of 20kg bags per m² at 100mm thick for Silverseal® HS Compound is 6 Bags, though service sizes, mixing ratios could possibly effect yield.

For further information see Installation Manual.



**COMPLIANCE**

Silverseal® HS Compound is manufactured in the EU, meeting the highest quality standard in compliance to ISO EN 9001. Tested to EN standards, CE Marked to ETAG 026 and BS 476.

**STORAGE AND DISPOSAL**

Silverseal HS Compound is may not be affected by an outdoor environment. However, for long term storage and ease of installation it is recommended that it should be stored indoors, ideally in dry conditions. Ideal storage temperature between -5°C and +30°C. For health and safety details refer to FSi technical department.

**ENVIRONMENT**

FSi contribute to Green Building by having a manufacturing policy of 100% recycle and 0% landfill for all products. Silverseal® HS Compound contributes to a Green Building: -

Low VOC (Inert Product no Fibre's).

No Power Tools required for installation (no energy source required).

Smoke and Air Tightness.

Noise Reduction.

Thermal Insulation.

Recycling of Packaging.

Manufactured in accordance with ISO 14001.

The life cycle of Silverseal® HS Compound is over 20 years.

