

GYPLYNER XTERNAL

A complete Saint-Gobain
SFS through-wall solution.



CONTENTS

Introduction to GypLyner Xternal	3
Saint-Gobain Brands	4
Saint-Gobain Approach	5
System Components	6
System Testing & Performance	7
Technical Support - 3D Calculations	14
Saint-Gobain Warranty	15

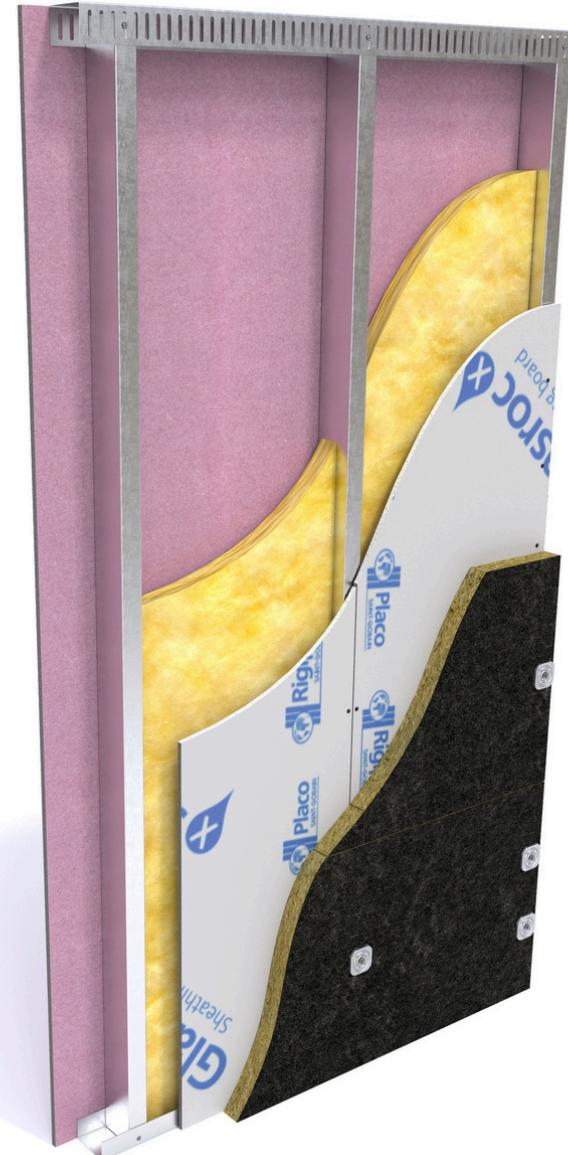
INTRODUCTION TO GYPLYNER XTERNAL

GypLyner Xternal is a complete Saint-Gobain through-wall SFS solution, delivering tested fire performances, as well as a range of thermal and acoustic performance options.

THROUGH-WALL INFILL SOLUTION

With thorough testing and technical know-how at the core of what we do, trusted Saint-Gobain brands, **British Gypsum, Isover, and Intrastack**, work together to provide a reliable infill solution that has been designed to offer versatility and exceed the expectations of our customers.

GypLyner Xternal's detailed and tested fire, thermal and acoustic performance specifications are all supported by technical evidence. Saint-Gobain's exacting standards for design and testing give you the certainty you need when developing your multi-storey projects. Delivering attention to detail and providing reassurance with substantiated evidence. This external wall offering has a clear range of performance specifications to suit all your needs.



SAINT-GOBAIN UK - APPROACH TO SOLUTIONS

SAINT-GOBAIN SOLUTIONS

Saint-Gobain brings together a full range of solutions and knowledge all under one roof. This strengthening of collective know-how and expertise makes it easier for Saint-Gobain to support customers through the entirety of their projects.

GYPLYNER XTERNAL BRANDS



SAINT-GOBAIN



GYPLYNER XTERNAL - SAINT-GOBAIN BRANDS

British Gypsum

British Gypsum is the UK's leading manufacturer of high-performance drylining solutions, that deliver sustainability and performance for both our people and our planet.

Through pioneering solutions we will help create a positive legacy, building great spaces to work, rest and play.

British Gypsum is part of Saint-Gobain Interior Solutions.



Isover

Isover is a UK manufacturer of mineral wool insulation solutions that deliver sustainability and performance. It serves those who build and those who spend time in buildings while addressing a variety of markets in construction, transportation and industrial applications. Isover is part of Saint-Gobain Interior Solutions.



Intrastack

Intrastack's panelised, steel-frame solutions lead the way in off-site construction techniques and bring certainty to all areas of the project process. As specialists in steel frame buildings, Intrastack offers developers and contractors seamless solutions that are progressive and efficient, whilst being cost-effective, and reducing risk on-site.



GYPLYNER XTERNAL- SYSTEM COMPONENTS



Gyproc® Fireline 15mm

A plasterboard containing glass fibre and other additives for extra fire protection.



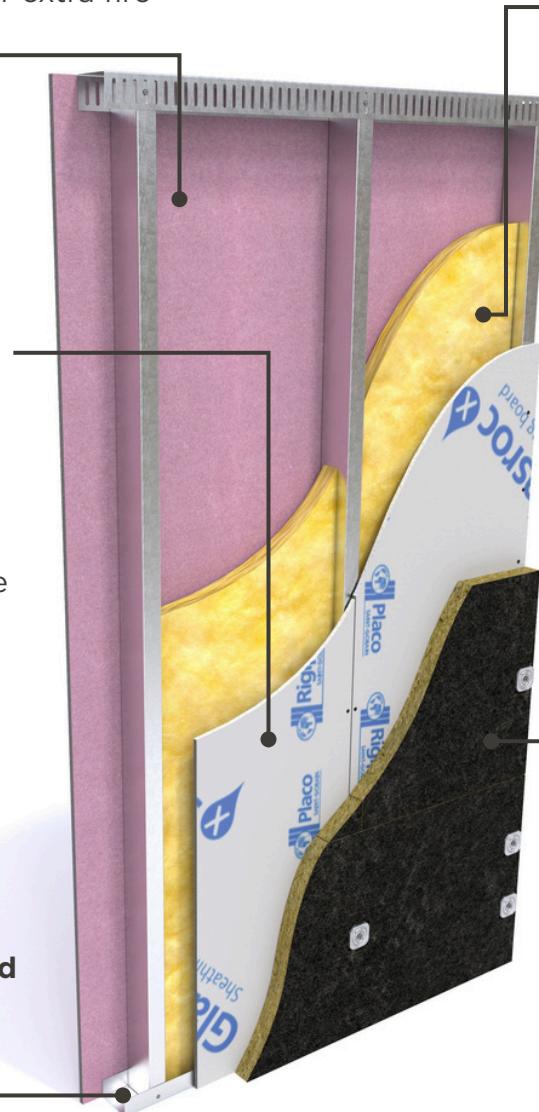
Glasroc® X Sheathing Board 12.5mm

A high performance gypsum sheathing board with mould resistant properties. Use it to provide external weather protection prior to the installation of the finished exterior façade system



intrastack

SFS base channel,
head channel and stud
by Intrastack.



Steel Frame Infill Batt

Glass mineral wool insulation slab for use between the studs of lightweight steel frames for enhanced thermal and acoustic performance.



Isover Acoustic Partition Roll (APR 1200)

Glass mineral wool for enhanced acoustic and thermal performance.



Glasroc X Screws 25mm

Fix weather resistant sheathing to steel frames securely.



Isover Polterm Max Plus

A stone material wool slab with a black glass veil on the external side providing thermal and acoustic insulation.



Stainless steel self-drilling insulation fastener screws (4.8mm diameter)

Use to attach Polterm Max Plus into the SFS framework. Minimum 10mm threaded penetration into the SFS framework.



Stress Plate square retaining washers (70mm x 70mm, 6.8mm diameter)

Use with stainless steel self-drilling insulation fastener screws to attach Polterm Max Plus in to the SFS framework.



SYSTEM TESTING & PERFORMANCE

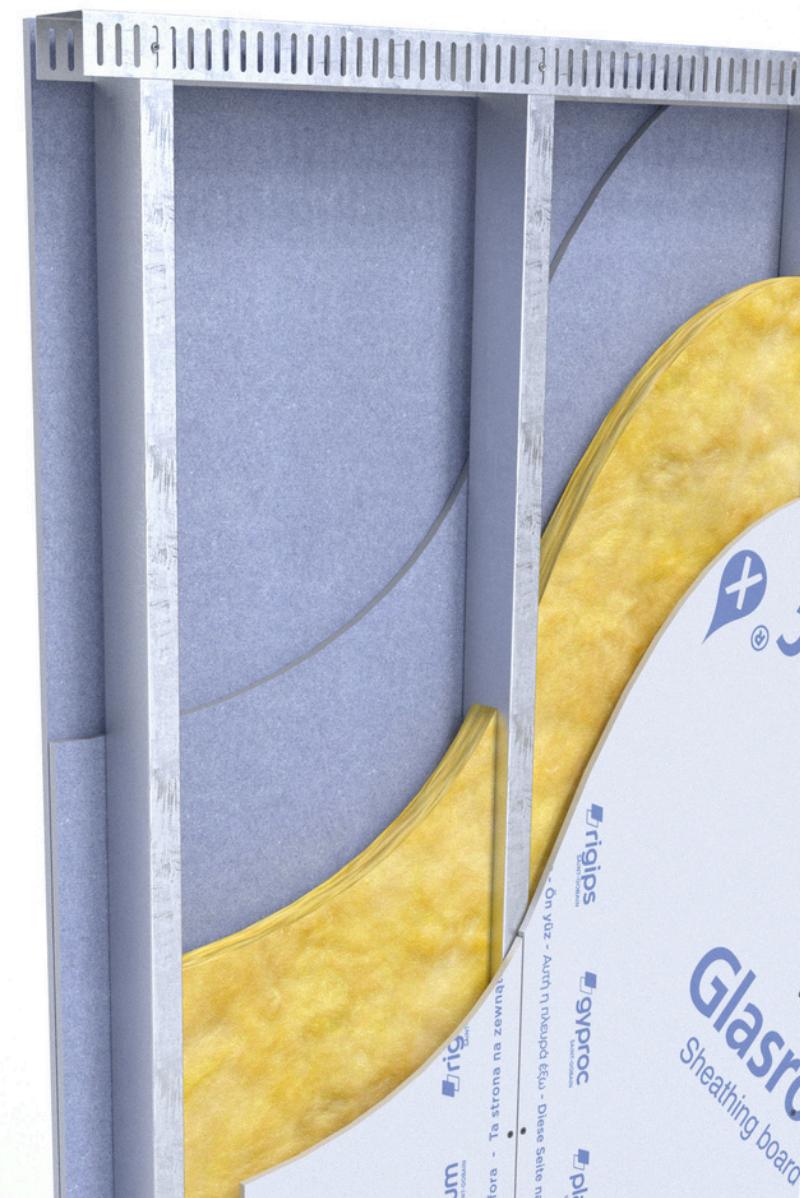
Please consult Saint-Gobain regarding the system specifications required for your project.

The following pages contain examples of fire performance tested wall build-ups of GypLyner Xternal, so you can confidently choose the system that meets your requirements.

Where available, we also include thermal and acoustic performance results - and further test data is available on request.



Please note: The following pages show indicative tested wall constructions that have been fire performance tested with Saint-Gobain products, and are provided for illustration purposes only at concept stage. Test data is available for review, upon request. These designs are not to be considered specification advice, nor should they replace project specific design undertaken by qualified specialists.



SYSTEM TESTING & PERFORMANCE

60-MINUTE FIRE PERFORMANCE - T106039 (EN)

Wall Build-Up:

Board side lining:

Gyproc FireLine 15mm

Cavity insulation:

50mm Isovap Acoustic Partition Roll (APR 1200)

External side lining:

Glasroc X Sheathing Board 12.5mm

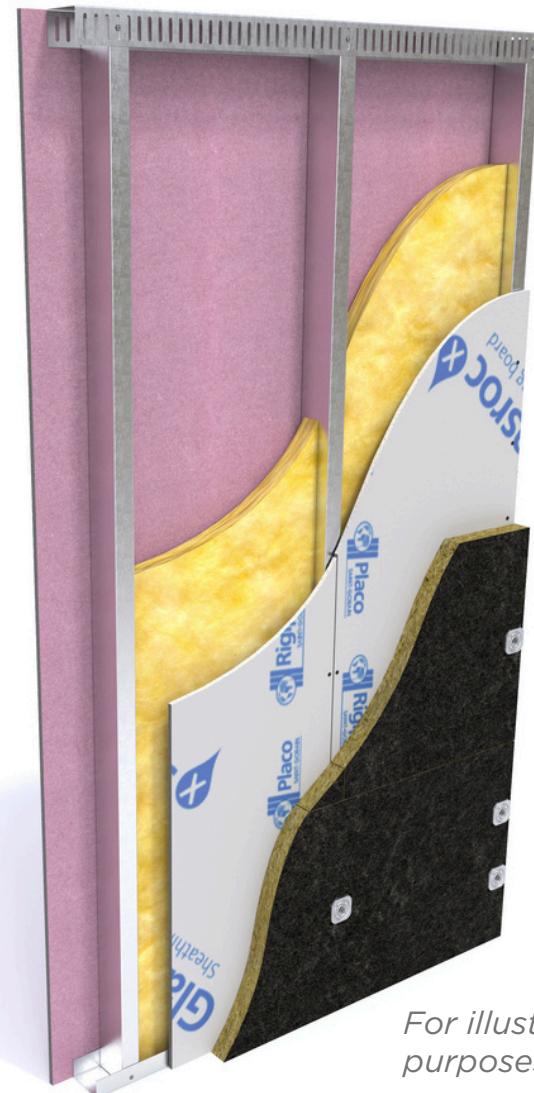
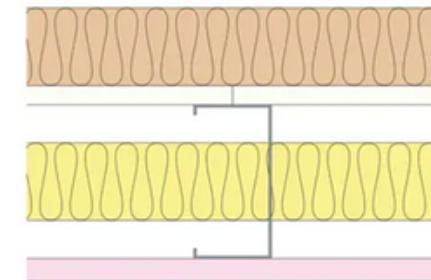
External insulation:

50mm Isovap Polterm Max Plus



Fire Integrity (mins)	60	Fire Insulation (mins)	60
Sound Insulation (Airborne) Rw (dB)	45	Max. Height (mins)	4000

Tested fire performances are for 100mm SFS only.



SYSTEM TESTING & PERFORMANCE

60-MINUTE FIRE PERFORMANCE - T106039 MR1 (EN)

Wall Build-Up:

Board side lining:

Gyproc FireLine MR 15mm

Cavity insulation:

50mm Isovap Acoustic Partition Roll (APR 1200)

External side lining:

Glasroc X Sheathing Board 12.5mm

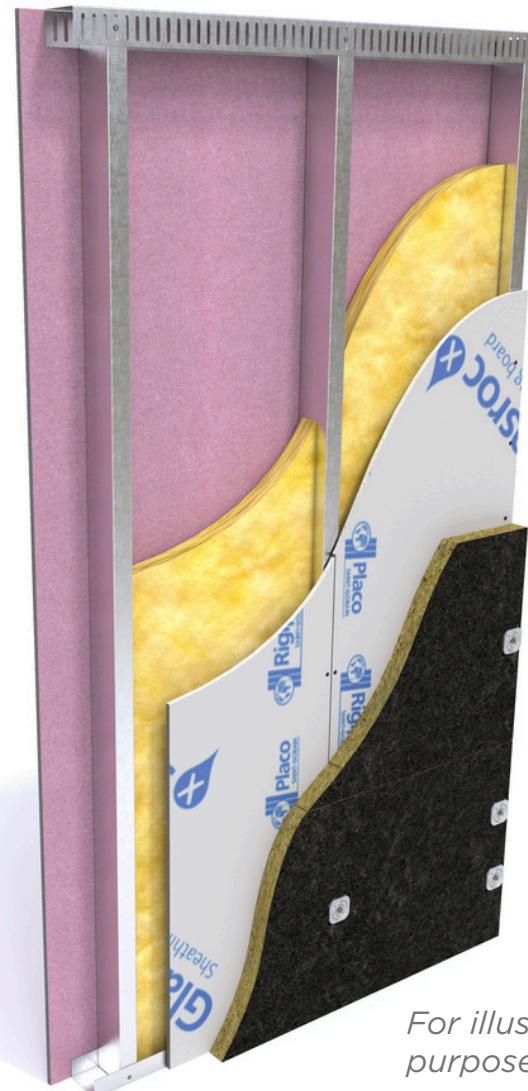
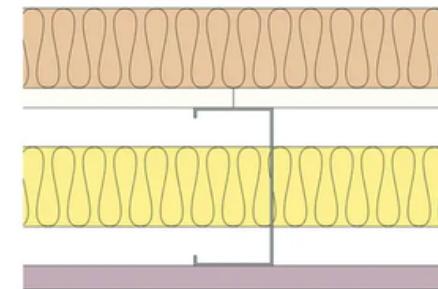
External insulation:

50mm Isovap Polterm Max Plus



Fire Integrity (mins)	60	Fire Insulation (mins)	60
Sound Insulation (Airborne) Rw (dB)	45	Max. Height (mins)	4000

Tested fire performances are for 100mm SFS only.



For illustrative purposes only

SYSTEM TESTING & PERFORMANCE

90-MINUTE FIRE PERFORMANCE - T106037 (EN)

Wall Build-Up:

Board side lining:

2 X Gyproc SoundBloc 15mm

Cavity insulation:

50mm Isover Acoustic Partition Roll (APR 1200)

External side lining:

Glasroc X Sheathing Board 12.5mm



Fire Integrity (mins)	90	Fire Insulation (mins)	90
Sound Insulation (Airborne) Rw (dB)	49	Max. Height (mins)	4000

Tested fire performances are for 100mm SFS only.



For illustrative purposes only

SYSTEM TESTING & PERFORMANCE

90-MINUTE FIRE PERFORMANCE - T106037 MR1 (EN)

Wall Build-Up:

Board side lining:

Gyproc SoundBloc 15mm

Gyproc SoundBloc MR 15mm

Cavity insulation:

50mm Isover Acoustic Partition Roll (APR 1200)

External side lining:

Glasroc X Sheathing Board 12.5mm



Fire Integrity (mins)	90	Fire Insulation (mins)	90
Sound Insulation (Airborne) Rw (dB)	49	Max. Height (mins)	4000

Tested fire performances are for 100mm SFS only.



SYSTEM TESTING & PERFORMANCE

120-MINUTE FIRE PERFORMANCE - T106038 (EN)

Wall Build-Up:

Board side lining:

3 X Gyproc FireLine 15mm

Cavity insulation:

50mm Isovap Acoustic Partition Roll (APR 1200)

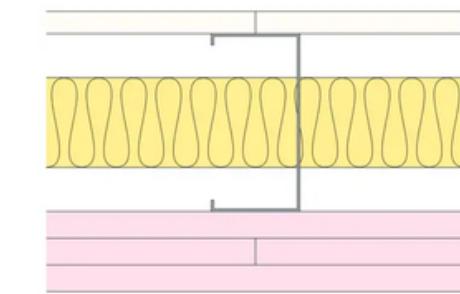
External side lining:

Glasroc X Sheathing Board 12.5mm



Fire Integrity (mins)	120	Fire Insulation (mins)	120
Sound Insulation (Airborne) Rw (dB)	51	Max. Height (mins)	4000

Tested fire performances are for 100mm SFS only.



For illustrative purposes only

SYSTEM TESTING & PERFORMANCE

120-MINUTE FIRE PERFORMANCE - T106038 MR1 (EN)

Wall Build-Up:

Board side lining:

2 X Gyproc FireLine 15mm
Gyproc FireLine MR 15mm

Cavity insulation:

50mm Isover Acoustic Partition Roll (APR 1200)

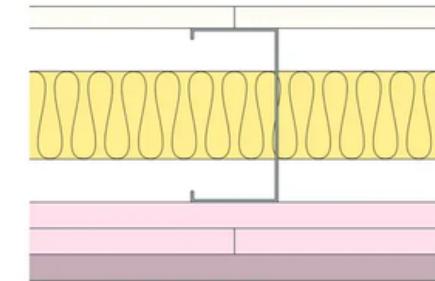
External side lining:

Glasroc X Sheathing Board 12.5mm



Fire Integrity (mins)	120	Fire Insulation (mins)	120
Sound Insulation (Airborne) Rw (dB)	51	Max. Height (mins)	4000

Tested fire performances apply to SFS depths of 100mm and over.



For illustrative purposes only

TECHNICAL SUPPORT - 3D CALCULATION REPORTS

Example report

Critical to building envelope performance, thermal calculations can determine wall design and components.

- GypLyner Xternal can be specified to meet a range of desired thermal performances, and Thermal Calculations are needed to establish if a specification will meet the performance requirements.
- 2D Calculations are available via the Technical Support Team (TST) on request, and provide an indicative performance for a monolithic building element in two dimensions.
- 3D Calculations are available to match common build-ups for GypLyner Xternal and provide indicative thermal performance for systems in three dimensions.
- Bespoke 3D thermal calculations can be provided on a project-by-project basis.

Input Data - Parameters

Point thermal bridge calculation including indicative U-value assessment

3D Thermal Bridge Report

Point thermal bridge calculation including indicative U-value assessment

This report outlines the full methodology used to calculate the point thermal bridge, χ , result for the entire model as depicted. This does not necessarily represent a single thermal bridge but the total of all bridges, represented as a single value.

An indicative U-value is also provided based on the assumption of the entire construction being to the specifics outlined in this report. Any openings, structural, rainscreen or other variations will significantly vary a U-value. Once a rainscreen system is fully designed, specified and signed off, then the rainscreen cladding or bracket manufacturer will be able to provide you with a fully detailed U-value calculation.

This information is provided by way of illustration only and includes various assumptions, calculations, and input factors as detailed and as incorporated within the software used. Further detail is outlined on page 3. We accept no liability for errors and/or omissions.

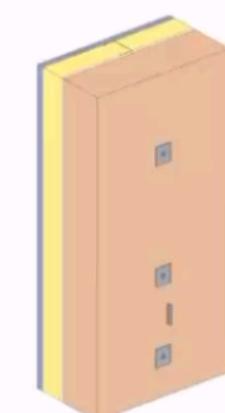
This report is to be read in its entirety and results can only be used within the context of the full report content.

Point Thermal Bridge, χ	0.020 W/K
Indicative U-value (rounded)	0.162 W/(m ² ·K)
Surface temperature factor, f_{Rsi}	0.934
Thermal coupling coefficient, L_{3D}	0.117 W

Model width	600.0 mm	Model height	1200.0 mm	Model depth	347.5 mm
-------------	----------	--------------	-----------	-------------	----------

Layers

Gyproc SoundBloc - 15mm
Gyproc SoundBloc - 15mm
Isover Acoustic Partition Roll (APR1200) - 100mm
Glasroc X Sheathing Board - 12.5mm
Isover Polterm Max Plus - 190mm
Light Gauge Steel Frame - C100F5012 stud @600mm
210mm ASR Bracket @1200mm



SAINT GOBAIN WARRANTY

The Saint-Gobain full system warranty, offered for the GypLyner Xternal solution, is the combination of the British Gypsum SpecSure® warranty and Intrastack design-life* up to 250-years.



- When installed in accordance with the specification, all GypLyner Xternal specifications are covered by the Saint-Gobain full system warranty.
- SpecSure® system warranty covers the GypLyner Xternal specifications and confirms that British Gypsum Systems will perform as specified for the lifetime of the building.
- The Intrastack design-life up to 250-years* covers the SFS framing element, which is provided by Intrastack, who will provide a full service of engineering, designing and detailing the SFS with their in-house technical team.
- The Saint-Gobain full system warranty defines that systems must comprise only genuine components specified by British Gypsum, Isover and Intrastack.
- All products detailed in a British Gypsum specification must be used to ensure the Saint-Gobain full system warranty remains valid.

**Assumed first maintenance at 60 years, and that building purpose and/or its required performance does not differ from which the Intrastack SFS was first designed.*



Disclaimer: The fire performance test pages show indicative tested wall constructions that have been fire performance tested with Saint-Gobain products, and are provided for illustration purposes only at concept stage. Test data is available for review, upon request. These designs are not to be considered specification advice, nor should they replace project specific design undertaken by qualified specialists.