
Fire Rated Systems
Specification and Installation Manual

Terms

AS – Acceptable Solution

FRR – Fire Resistance Rating

FSTC – Field Sound Transmission Class

NZBC – New Zealand Build Code

NZS – New Zealand Standard

STC – Sound Transmission Class

SG – Stress Grade

VM – Verification Method

AS1530.4-2005 – Methods for fire tests on building materials, components and structures, Part 4: Fire-resistance tests of elements of construction

Product Substitution

Resene Construction Systems Fire Rated Systems have been carefully designed to New Zealand conditions and have been independently tested and assessed to make sure that they meet the performance criteria's as outlined in the NZBC. It is imperative to use only Resene Construction Systems products where specified and that the design and construction of the Fire Rated System is followed so that you are safe in the knowledge that the level of fire safety has been achieved on site.

Use of Winstone Wall Boards Ltd products

The Fire Rated Systems contained in this document have utilised some of the test data from Winstone Wallboards Ltd own testing and have received authorisation and approval to utilise this to achieve additional solutions. This means that where a Resene Construction Systems Fire Rated System is used then it must be used in conjunction with Winstone Wallboards Ltd products. Winstone Wallboards Ltd accepts no liability if GIB® Fire Rated Systems are not used in accordance with the instructions contained within this publication.

Where would you use a Resene Construction Systems Fire Rated Systems?

Resene Construction Systems Fire Rated System are for load bearing walls where a FRR is required on a wall.

- Where a maximum loading of 5.56kN/Stud is required
- Where a solution is required that meets AS1530.4-2005.
- Where you are seeking compliance with the NZBC

Supply and Installation of Cavity Battens

Batten Types

The battens must be:

- 20 mm minimum thickness – to give a 20 mm minimum width cavity
- 40 mm minimum width
- H3.1 treated
- SG6 grade radiata pine timber
- positioned mid-width to the stud and over the wall underlay

Installation of Battens

To achieve fixing of the battens onto the structural frame, the fixings must be a minimum:

- 75mm x 3.15mm hot-dip galvanised nails

The batten fixing positions must be at maximum 300 mm centres vertically.

Sealant Types

Where a sealant needs to be used in the fire wall then the following product is recommended.

- Bostik Fireban One

Should another sealant be used then ensure it meets the minimum requirements of the wall (i.e. 30 minute FRR on the wall, ensure the sealant has been Fire Rated for at least that long as well). When selecting a sealant please ensure that the durability meets the performance criteria of the NZBC B2.

Surface Finish Properties of Winstone Wall Boards Ltd products

All paper-faced GIB® plasterboard sheet materials have been tested in accordance with ISO 5660 Reaction to Fire Tests – Heat release, smoke production and mass loss rate Parts 1 and 2 and achieve a Group 1-S classification as defined in NZBC C/VM2-Appendix A. Note that this Classification applies to the plasterboard product without paint or wallpaper finish. The supplier or manufacturer of any selected surface finish must be contacted for their particular product classification when applied over the relevant substrate. Resene Construction Systems have completed a number of tests on Interior Finishing Systems, there product classifications are outlined below.

Surface Finish Properties of Resene Construction Systems products

Exterior Finishing System Test Results

Conformance with the exterior surface finish requirements for the exterior claddings is met by complying with the requirements of New Zealand Building Code (NZBC) Acceptable Solution C/AS1 Paragraph 5.4 and NZBC Acceptable Solution C/AS2 – C/AS6 Paragraph 5.8.1, i.e. determination of the peak rate of heat release and total heat released from the external wall cladding system in accordance with NZBC Acceptable Solutions C/AS1 – C/AS6 Appendix C C7.1 (testing to ISO 5660 Part 1). NZBC Acceptable Solutions C/AS1-C/AS6 set the allowable distance to the relevant boundary for exterior walls for each Risk Group depending on the test results achieved.

Cone calorimeter testing on four Resene Construction Systems external plaster systems are outlined below. System 1 is the typical finish for a firewall as it achieves both a Type A and Type B performance summary as defined Under C/AS1 paragraph 5.3.

System 1 – BRANZ Fire Test Report 5078

Integra Panel with a Standard Render System with Mineral Texture Finish one coat of Rockcote RenderPrime and 2 coats of Rockcote Armour

Peak Heat Release Rate kW/m² = 68.4

Total Heat Release MJ/m² = 7.2

Performance Summary Type A = Satisfied

Performance Summary Type B = Satisfied

System 2 – BRANZ Fire Test Report 5079

Integra Panel with a Standard Render System with Mineral Texture Finish one coat of Resene Limelock Sealer and 1 coat of Resene X200 and 2 coats of Resene AquaShield

Peak Heat Release Rate kW/m² = 80

Total Heat Release MJ/m² = 7.2

Performance Summary Type A = Satisfied

Performance Summary Type B = Satisfied

System 1 – BRANZ Fire Test Report 5080

Integra Panel with a Standard Render System with Mineral Texture Finish one coat of Resene Limelock Sealer and 2 coats of Resene X200

Peak Heat Release Rate kW/m² = 109.6

Total Heat Release MJ/m² = 9.0

Performance Summary Type A = Not Satisfied

Performance Summary Type B = Satisfied

System 1 – BRANZ Fire Test Report 4610

Integra Panel with a Standard Render System with one coat of Resene Limelock Sealer an Acrylic Texture Finish and 2 coats of Resene X200

Peak Heat Release Rate kW/m² = 143.9

Total Heat Release MJ/m² = 9.4

Performance Summary Type A = Not Satisfied

Performance Summary Type B = Satisfied

Interior Finishing System Test Results

The following systems have been assessed in accordance with the New Zealand Building Code Verification Method C/VM2 – Appendix A to establish a group number for materials used over the lining. The tested samples achieved the following purpose group numbers.

Group Number 1-S as defined in Appendix A of C/VM2 - material has total heat release not greater than 1 MW following exposure to 100 kW for 10 minutes then 300 kW for 10 minutes and the average smoke production rate over the period 0–20min is not greater than 5.0 m²/s

System 1 – BRANZ Fire Test Report 5458

Rockcote MultiStop Finish Compound

Peak Heat Release Rate kW/m² = 147.3

Total Heat Release MJ/m² = 3.3)
Purpose Group – 1S

System 2 – BRANZ Fire Test Report 5458

Rockcote MultiStop Finish Compound with Resene Aquapel
Peak Heat Release Rate kW/m² = 10.6
Total Heat Release MJ/m² = 7.1
Purpose Group – 1S

System 3 – BRANZ Fire Test Report 5458

2 Coats of Milano Marblestone, 1 coat of Milano Plak, 1 Coat of Milano Saonada Wax
Peak Heat Release Rate kW/m² = 141.4
Total Heat Release MJ/m² = 6.2
Purpose Group – 1S

System 4 – BRANZ Fire Test Report 5458

2 Coats of Rockcote Earthen Decor
Peak Heat Release Rate kW/m² = 125.4
Total Heat Release MJ/m² = 8.9
Purpose Group – 1S

Variations to the solutions offered in this Guide

The following system variations are not considered to be detrimental to the FRR of the systems offered in this guide.

- Increase in cross-sectional dimensions of the framing elements
- Increase in Timber density
- Decrease in stud spacing
- The use of stainless steel fasteners provided they are of the same length and gauge
- Any building underlay complying with the requirements of the New Zealand Building Code for Fire Safety
- Any insulation within the timber framing as specified by Winstone Wallboards for fire rated systems
- Panel thickness increased to 75mm panel

Where 75mm panel is being utilised then the length of the screw will need to be increased to 125mm.

Stability of Fire Rated Systems

The requirements of the Building Code clauses for Protection from Fire (C1 - C6) aim to protect people in buildings, limit fire spreading to other buildings, and help firefighting and rescue.

These included design values for fire size, amount of fuel present, amount of smoke and carbon monoxide generated and assumed occupant characteristics affecting evacuation times. The design is assessed against acceptance criteria specified in the Code clauses.

While still representing the minimum standard the code requirements for fire safety now allows a level of protection for the occupants.

An Acceptable Solution details one way to comply with the relevant part of the Building Code. If you follow and meet the requirements of the solution described; a Building Consent Authority must accept your solution as complying with the related Building Code provisions.

The New Zealand Building Code requirements for stability following a fire fall under two different code clauses, B1 - Structure and C6 - Protection from Fire. As defined in NZBC Clause C6 Glossary – Structural Stability in the context of *fire* protection is the support provided to a *building element* having a *FRR*, intended to avoid premature failure due to structural collapse as a result of applied load, dead and live loads or as a result of any additional loads caused by *fire*.

Pathway to compliance using Clause B1

In order to satisfy the requirements of "NZBC Clause B1 – Structure" the following functional requirement must be met

"Building, building elements and sitework shall withstand the combination of loads that they are likely to experience during construction or alteration and throughout their lives"

The Verification Method for B1 does layout the criteria for checking strength and stability of the structure post-fire. Part of the criteria requires stability in either direction before or after a fire (the lateral load) while the building is being repaired, demolished or even while being extinguished. B1 does not tend to single out building elements instead requiring that all structural elements and buildings survive the fire without failing the stability requirement. B1/VM1 discusses the requirement for a lateral load and also provides guidelines for checking the strength and structural stability of boundary elements in the case of a fire. The simplest and most commonly applied criterion for boundary walls is the ability to resist a post-fire force in accordance with Clause 2.2.4 (iii), equal to 'a uniformly distributed face load of 0.5 kPa in any direction'. The pathway outlined above is often seen as difficult to comply with when addressing stability of a fire rated system, instead we recommend utilising a combination of NZBC C6 and NZS3604:2011 as outlined below.

Pathway to compliance using Clause C6

Another path of compliance is to satisfy the requirements of "NZBC Clause C6 – Protection from Fire" the following functional requirement must be met

“C6.1 Structural systems in buildings must be constructed to maintain structural stability during fire so that there is:

- a) a low probability of injury or illness to occupants,
- b) a low probability of injury or illness to fire service personnel during rescue and firefighting operations, and
- c) a low probability of direct or consequential damage to adjacent household units or other property. ”

Like B1, C6 also requires stability after a fire for all structural elements in buildings. As seen in the functional requirement above, C6.1 however discusses the concept of “structural systems” which can be interpreted as a reference to systems that require structural stability in the event of a fire (ie walls that require a FRR). Resene Construction Systems Fire Rated Systems have been tested in accordance with AS1530.4 – 2005 as a mean of compliance with the NZBC.

Pathway to compliance using NZS3604:2011

NZS3604:2011 Timber-framed buildings sets a minimum standard for the design and construction of timber-framed buildings. NZS3604:2011 provides an effective means of compliance and practical guidance for the designing and building to meet New Zealand Code requirements without the need for specific engineering design. Using an alternative means of compliance through a recognised New Zealand Standard such as NZS3604:211 can be interpreted that the lateral stability of fire rated boundary walls comply.

For further information regarding this please refer to Build Magazine Article 146 where an opinion piece on “Boundary Walls” has been written.

Single Storey Light Timber Framed Boundary Fire Wall

Please refer to “GIB® Fire Rated Systems Guide” for diagrams and further information.

The solution within the GIB® Fire Rated Systems Guide has been developed for simple single storey light timber framed structures such as residential garages or other single storey structures designed within the scope of the latest version of NZS3604.

The detail relies on the bottom plate fixing detail and cantilever action of the wall to resist an imposed 0.5 kPa face load in any direction.

Walls with a stud height of 2.4 metres require a minimum stud size of nominally 140 x 45 mm spaced at 600 mm centres.

Walls with a stud height of 3.0 metres require a minimum stud size of nominally 140 x 45 mm spaced at 400 mm centres.

Penetrations through Fire Rated Walls

The quality and effectiveness of fire separations must be maintained around penetrations during a fire.

Penetrations through fire rated wall systems can allow the spread of fire from one fire cell to another if they are not rated correctly. This risks the health and safety of the occupants.

Where a difference exists between the FRR of the penetration seal and the FRR of the Resene Construction System Fire Rated system, the lower FRR will be deemed applicable.

It is a mandatory requirement that any penetrations, holes or gaps through or around fire walls are effectively sealed with an intumescent fire rated product to preserve the integrity of the fire separation. The trades person forming/making the penetration must ensure a compliant Fire rated solution is installed and confirm in writing that such works have been undertaken.

Wall to ceiling

Where two fire rated walls meet or where a fire rated wall meets a fire rated ceiling system or roof, any gaps between them must be fire rated.

Penetrations

For data cabling, electrical, plumbing or other services must be fire stopped using a system that is tested and designed for the size and type of penetration.

The FRR of the fire separation must be maintained where the lining of the wall is penetrated for installation of building components in such cases a proprietary system should be used that addresses can seal around the penetration.

Other Useful Documents

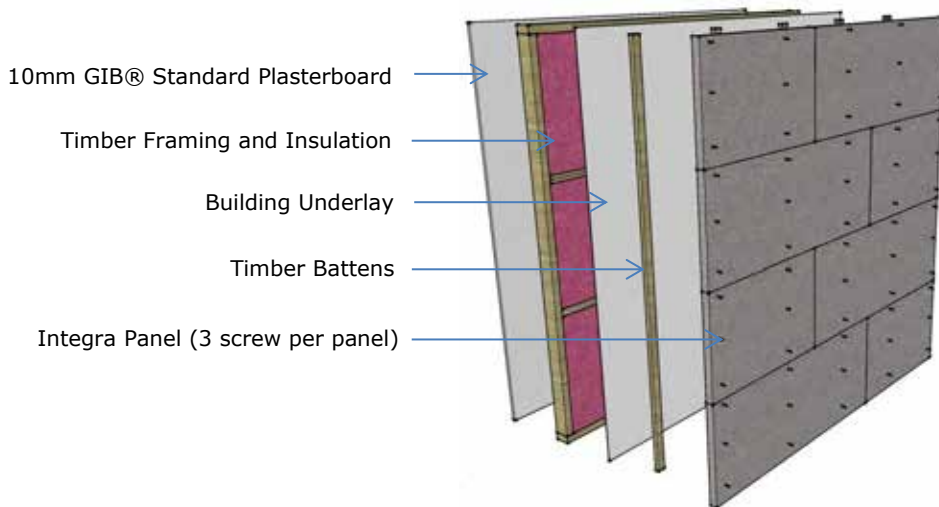
- Resene Construction Systems Integra Lightweight Concrete Façade System
- GIB® Fire Rated Systems Guide
- BRANZ Type Test FR5740-TT
- BRANZ Technical Opinion FAR4552-TO
- Build Magazine Article 146 – Boundary Walls

Resene Construction Systems – Summary Table

External Firewalls

Name	FRR	Linings	System Weight (kg/m²)	Page
INTL15	15/15/15	1 layer of 10mm GIB® Standard	56.5	7
INTL30	30/30/30	1 layer of 10mm GIB Fyrelite®	56.5	8
INTL60	60/60/60	1 layer of 13mm GIB Fyrelite®	61.5	9
INTL90	90/90/90	1 layer of 16mm GIB Fyrelite®	70.5	10
INTL120	120/120/120	2 layers of 16mm GIB Fyrelite®	99.5	11

INTL15 - TWO Way FRR - Timber Frame – 15 minute - Integra Lightweight Concrete Façade System with 1 layer of 10mm GIB® Standard



Framing to comply with

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602)
- Studs at 600mm centres maximum
- Nogs at 1200mm centres for Horizontal fixing

Cladding to comply with

- NZBC Clause B1 Structure
- NZBC Clause B2 Durability
- NZBC Clause E2 External Moisture
- NZBC Clause F2 Hazardous Building Materials

Wall Heights

- Loadbearing – Framing dimensions and height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

Linings

- 1 layer of 10mm GIB® Standard Plasterboard on the inside of the frame
- Vertical or Horizontal fixing permitted. Sheets shall be touch fitted.
- When fixing vertically, full height sheets shall be used where possible.
- All sheet joints must be formed over solid timber framing.

Lining Fasteners

- 41mm x 6g GIB® Grabber® High Thread Drywall Screws or
- 40mm x 2.8mm GIB® Nails.

Lining Fastener Centres

- 300mm centres on the sheet perimeter.
- Place fasteners 12mm from bound sheet edges and 18mm from sheet ends.
- Single screws or nails at 300mm centres to intermediate studs.

Linings Jointing

- All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled “GIB® Site Guide”.

Cladding

- 1 layer of 50mm Integra Lightweight Concrete Panel installed over a Timber Batten

Cladding Fastener Centres

- No closer than 50mm from the perimeter of the panel
- 3 screws per panel per stud
- Screws to be just below the surface of the panel

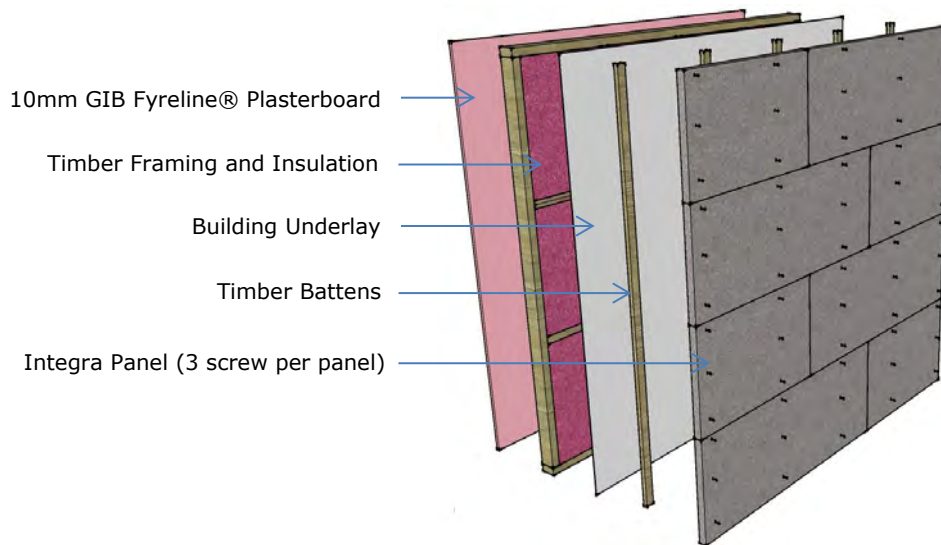
Cladding Mortar Joints

- Where panels join another panel or joints must use Rockcote MultiStop Bedding Compound to mortar the panels together.

Battens

- 20 mm minimum thickness – to give a 20 mm minimum width cavity
- 40 mm minimum width
- H3.1 treated
- SG6 grade radiata pine timber
- 75mm x 3.15mm hot-dip galvanised
- Fastened at 300mm centres

INTL30 - TWO Way FRR - Timber Frame – 30 minute - Integra Lightweight Concrete Façade System with 1 layer of 10mm GIB Fyreline®



Framing to comply with

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602)
- Studs at 600mm centres maximum
- Nogs at 1200mm centres for Horizontal fixing

Cladding to comply with

- NZBC Clause B1 Structure
- NZBC Clause B2 Durability
- NZBC Clause E2 External Moisture
- NZBC Clause F2 Hazardous Building Materials

Wall Heights

- Loadbearing – Framing dimensions and height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

Linings

- 1 layer of 10mm GIB Fyreline® Plasterboard on the inside of the frame
- Vertical or Horizontal fixing permitted. Sheets shall be touch fitted.
- When fixing vertically, full height sheets shall be used where possible.
- All sheet joints must be formed over solid timber framing.

Lining Fasteners

- 41mm x 6g GIB® Grabber® High Thread Drywall Screws or
- 40mm x 2.8mm GIB® Nails.

Lining Fastener Centres

- 300mm centres on the sheet perimeter.
- Place fasteners 12mm from bound sheet edges and 18mm from sheet ends.
- Single screws or nails at 300mm centres to intermediate studs.

Linings Jointing

- All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide".

Cladding

- 1 layer of 50mm Integra Lightweight Concrete Panel installed over a Timber Batten

Cladding Fastener Centres

- No closer than 50mm from the perimeter of the panel
- 3 screws per panel per stud
- Screws to be just below the surface of the panel

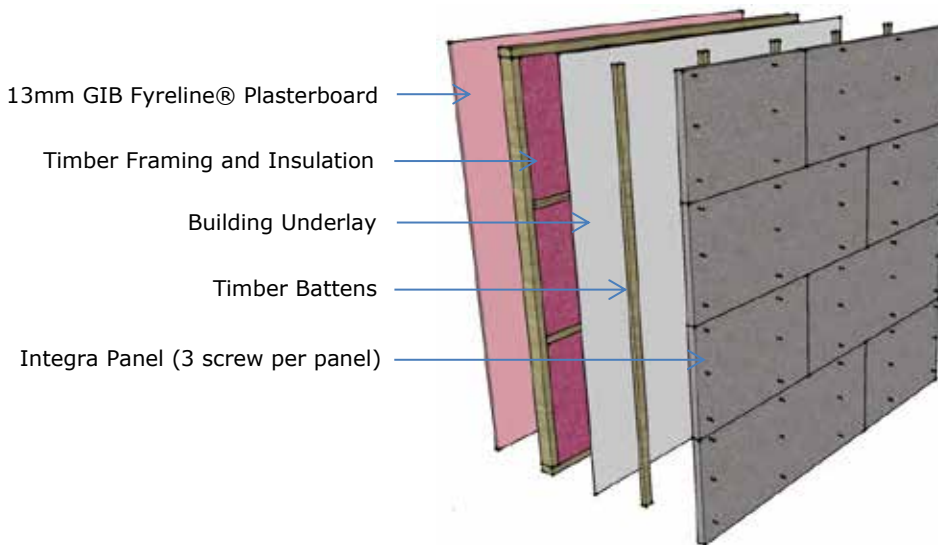
Cladding Mortar Joints

- Where panels join another panel or joints must use Rockcote MultiStop Bedding Compound to mortar the panels together.

Battens

- 20 mm minimum thickness – to give a 20 mm minimum width cavity
- 40 mm minimum width
- H3.1 treated
- SG6 grade radiata pine timber
- 75mm x 3.15mm hot-dip galvanised
- Fastened at 300mm centres

INTL60 - TWO Way FRR - Timber Frame – 60 minute - Integra Lightweight Concrete Façade System with 1 layer of 13mm GIB Fyreline®



Framing to comply with

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602)
- Studs at 600mm centres maximum
- Nogs at 1200mm centres for Horizontal fixing

Cladding to comply with

- NZBC Clause B1 Structure
- NZBC Clause B2 Durability
- NZBC Clause E2 External Moisture
- NZBC Clause F2 Hazardous Building Materials

Wall Heights

- Loadbearing – Framing dimensions and height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

Linings

- 1 layer of 13mm GIB Fyreline® Plasterboard on the inside of the frame
- Vertical or Horizontal fixing permitted. Sheets shall be touch fitted.
- When fixing vertically, full height sheets shall be used where possible.
- All sheet joints must be formed over solid timber framing.

Lining Fasteners

- 41mm x 6g GIB® Grabber® High Thread Drywall Screws or
- 40mm x 2.8mm GIB® Nails.

Lining Fastener Centres

- 300mm centres on the sheet perimeter.
- Place fasteners 12mm from bound sheet edges and 18mm from sheet ends.
- Single screws or nails at 300mm centres to intermediate studs.

Linings Jointing

- All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide".

Cladding

- 1 layer of 50mm Integra Lightweight Concrete Panel installed over a Timber Batten

Cladding Fastener Centres

- No closer than 50mm from the perimeter of the panel
- 3 screws per panel per stud
- Screws to be just below the surface of the panel

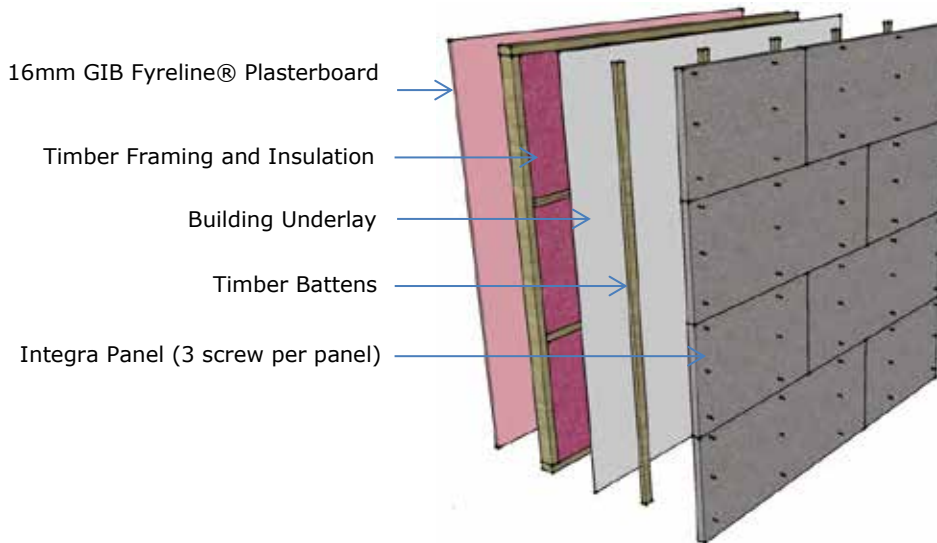
Cladding Mortar Joins

- Where panels join another panel or joints must use Rockcote MultiStop Bedding Compound to mortar the panels together.

Battens

- 20 mm minimum thickness – to give a 20 mm minimum width cavity
- 40 mm minimum width
- H3.1 treated
- SG6 grade radiata pine timber
- 75mm x 3.15mm hot-dip galvanised
- Fastened at 300mm centres

INTL90 - TWO Way FRR - Timber Frame – 90 minute - Integra Lightweight Concrete Façade System with 1 layer of 16mm GIB Fyreline®



Framing to comply with

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602)
- Studs at 600mm centres maximum
- Nogs at 1200mm centres for Horizontal fixing

Cladding to comply with

- NZBC Clause B1 Structure
- NZBC Clause B2 Durability
- NZBC Clause E2 External Moisture
- NZBC Clause F2 Hazardous Building Materials

Wall Heights

- Loadbearing – Framing dimensions and height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

Linings

- layer of 16mm GIB Fyreline® Plasterboard on the inside of the frame
- Vertical or Horizontal fixing permitted. Sheets shall be touch fitted.
- When fixing vertically, full height sheets shall be used where possible.
- All sheet joints must be formed over solid timber framing.

Lining Fasteners

- 51mm x 7g GIB® Grabber® High Thread Drywall Screws

Lining Fastener Centres

- 300mm centres on the sheet perimeter.
- Place fasteners 12mm from bound sheet edges and 18mm from sheet ends.
- Single screws or nails at 300mm centres to intermediate studs.

Linings Jointing

- All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide".

Cladding

- 1 layer of 50mm Integra Lightweight Concrete Panel installed over a Timber Batten

Cladding Fastener Centres

- No closer than 50mm from the perimeter of the panel
- 3 screws per panel per stud
- Screws to be just below the surface of the panel

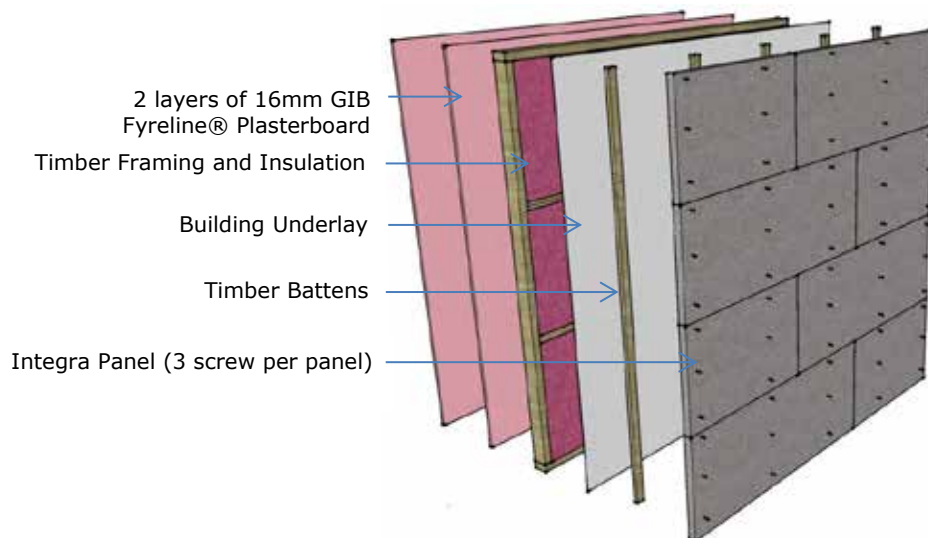
Cladding Mortar Joints

- Where panels join another panel or joints must use Rockcote MultiStop Bedding Compound to mortar the panels together.

Battens

- 20 mm minimum thickness – to give a 20 mm minimum width cavity
- 40 mm minimum width
- H3.1 treated
- SG6 grade radiata pine timber
- 75mm x 3.15mm hot-dip galvanised
- Fastened at 300mm centres

INTL120 - TWO Way FRR - Timber Frame – 120 minute - Integra Lightweight Concrete Façade System with 2 layers of 16mm GIB Fyreline®



2 layers of 16mm GIB Fyreline® Plasterboard

Timber Framing and Insulation

Building Underlay

Timber Battens

Integra Panel (3 screw per panel)

Framing to comply with

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS 3604) or VM1 Clause 6 – Timber (NZS 3603)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS 3602)
- Studs at 600mm centres maximum
- Nogs at 1200mm centres for Horizontal fixing

Cladding to comply with

- NZBC Clause B1 Structure
- NZBC Clause B2 Durability
- NZBC Clause E2 External Moisture
- NZBC Clause F2 Hazardous Building Materials

Wall Heights

- Loadbearing – Framing dimensions and height as determined by NZS 3604 stud and top plate tables for loadbearing walls.

Linings

- 2 layers of 16mm GIB Fyreline® Plasterboard on the inside of the frame
- Vertical fixing only permitted. Sheets shall be touch fitted.
- Full height sheets shall be used where possible.
- When sheet end butt joints are unavoidable, they must be formed over solid framing and staggered from horizontal joints in the first layer.
- Joints of the outer layer are staggered from sheet end butt joints in the first layer.
- All sheet joints must be formed over solid timber framing.

Lining Fasteners

- INNER LAYER: 51mm x 7g GIB® Grabber® High Thread Drywall Screws.
- OUTER LAYER: 63mm x 8g GIB® Grabber® Self Tapping Screws

Lining Fastener Centres

- INNER LAYER: 600mm centres vertically up each stud 400mm centres horizontally along top and bottom plates.
- OUTER LAYER: 300mm centres on the sheet perimeter.
- Place fasteners 12mm from bound sheet edges and 18mm from sheet ends.
- Single screws at 300mm centres to intermediate studs.

Linings Jointing

- All fastener heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide".

Cladding

- 1 layer of 50mm Integra Lightweight Concrete Panel installed over a Timber Batten

Cladding Fastener Centres

- No closer than 50mm from the perimeter of the panel
- 3 screws per panel per stud
- Screws to be just below the surface of the panel

Cladding Mortar Joints

- Where panels join another panel or joints must use Rockcote MultiStop Bedding Compound to mortar the panels together.

Battens

- 20 mm minimum thickness – to give a 20 mm minimum width cavity
- 40 mm minimum width
- H3.1 treated
- SG6 grade radiata pine timber
- 75mm x 3.15mm hot-dip galvanised
- Fastened at 300mm centres

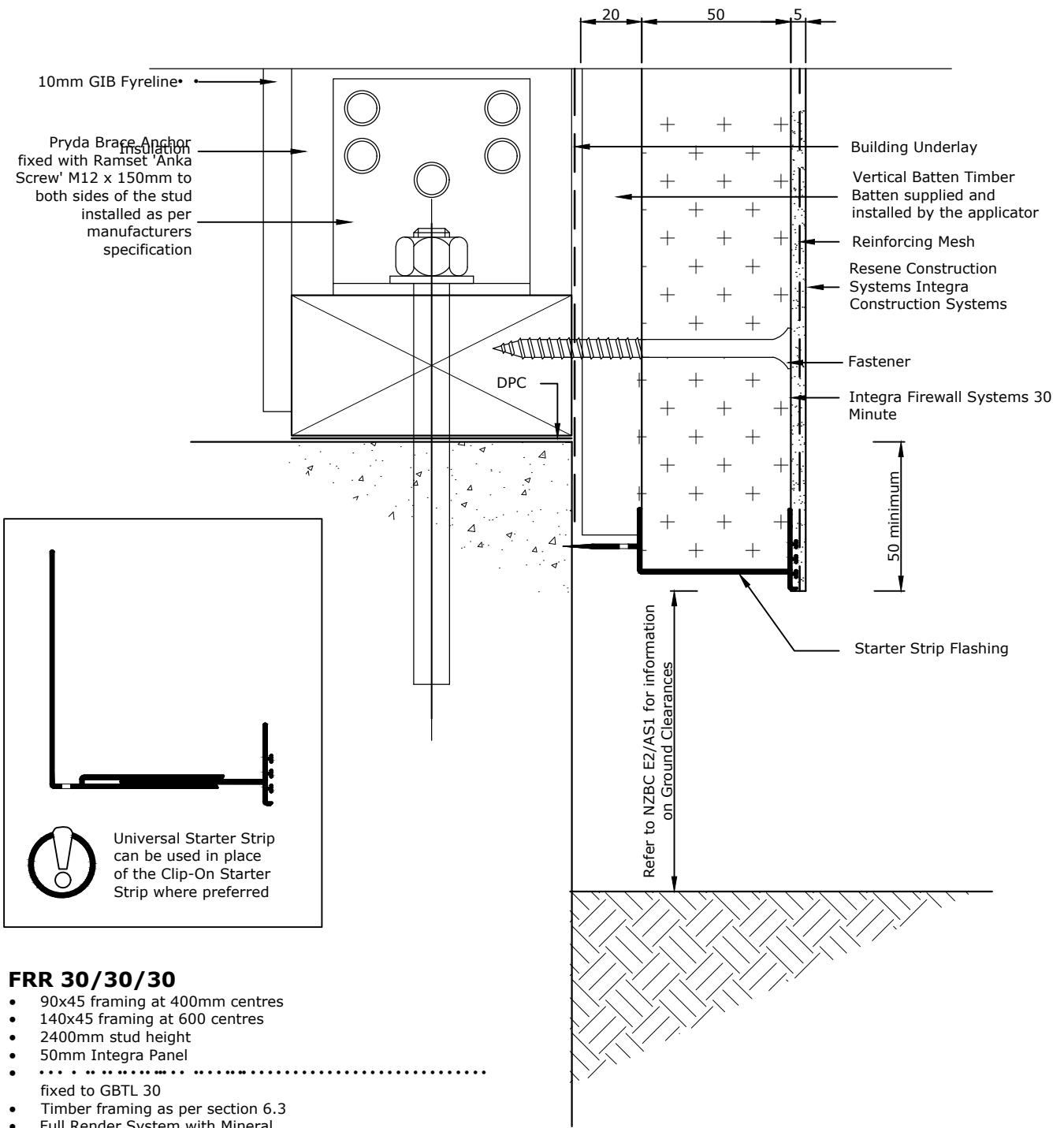


Integra Fire Solutions

Technical Drawings

Foundation - Firewall
Soffit - Firewall
External Corner - Firewall
Vertical Control Joint (Fire Break)
Control Joint (T-Intersection with Concrete Block)
Internal Corner (T-Section with Concrete Block)
2 Way Firewall Cross Section - 30FRR

Further details are available on our website www.reseneconstruction.co.nz



FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600 centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour



The external walls are required to be fire rated depending upon the situation when the wall is close to a boundary or a neighbouring property in order to comply with NZBC clause C3. The walls included in this section are load bearing walls as per NZS 3604. Special attention must be paid to junctions and penetrations in external walls. The external claddings may be required to be fixed over a cavity and the cavity must not open into the roof space or sub floor space.

For buildings within the scope of NZS 3604 the bottom plates for all fire rated walls must be supported and fixed to floors using a Pryda Brace Anchor fixed with Ramset 'Anka Screw' M12 x 150mm or proprietary fasteners as per Section 7.5.12. of NZS 3604. For the Specific Engineering Design projects (SED), it is the structural engineer/designer's responsibility to ensure that the floor and wall connections are designed/ constructed to withstand the emergency loading requirements expected as per Clause B1 of NZBC.

Refer to NZBC E2/AS1 for information on Ground Clearances



System
Integra Construction Systems

Substrate
Integra Firewall Systems 30 Minute

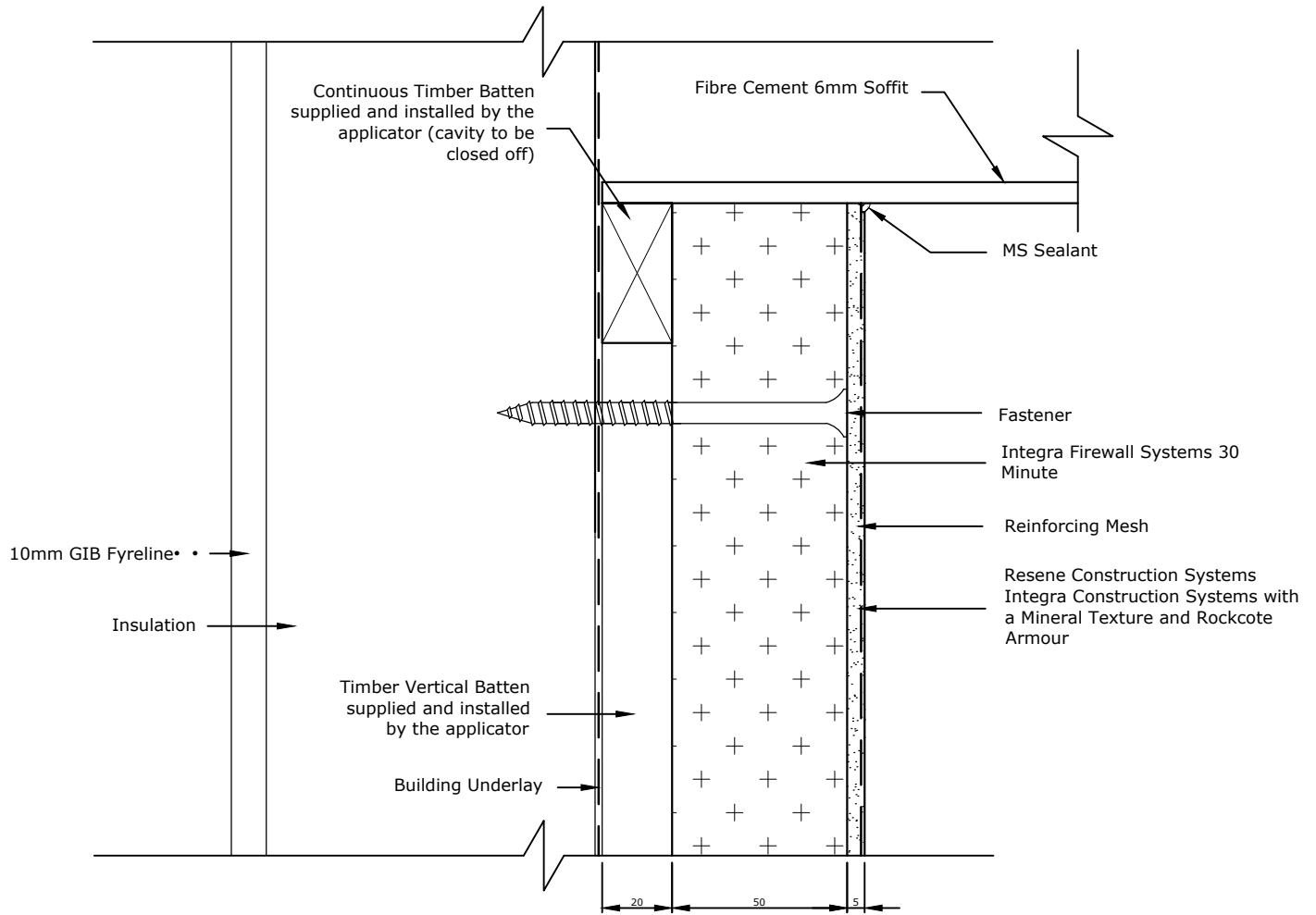
Drawing Name
Foundation - Firewall 30 mins

Scale
1 : 2 @ A4

Date
1 November 2017

Sheet
36.18.00

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FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600 centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour



The external walls are required to be fire rated depending upon the situation when the wall is close to a boundary or a neighbouring property in order to comply with NZBC clause C3. The walls included in this section are load bearing walls as per NZS 3604. Special attention must be paid to junctions and penetrations in external walls. The external claddings may be required to be fixed over a cavity and the cavity must not open into the roof space or sub floor space.

For buildings within the scope of NZS 3604 the bottom plates for all fire rated walls must be supported and fixed to floors using a Pryda Brace Anchor fixed with Ramset 'Anka Screw' M12 x 150mm or proprietary fasteners as per Section 7.5.12. of NZS 3604. For the Specific Engineering Design projects (SED), it is the structural engineer/designer's responsibility to ensure that the floor and wall connections are designed/ constructed to withstand the emergency loading requirements expected as per Clause B1 of NZBC.



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System
Integra Construction Systems

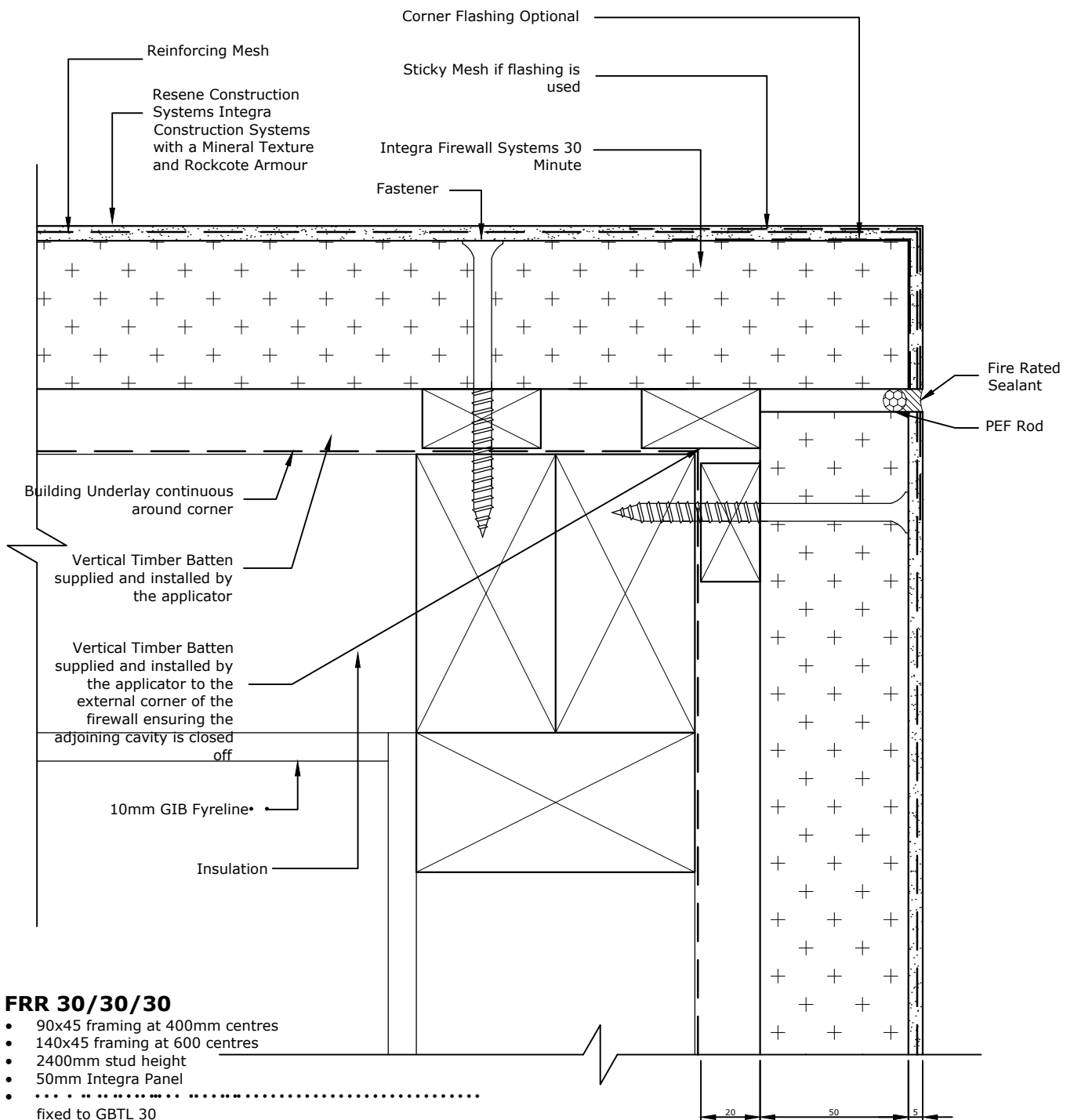
Substrate
Integra Firewall Systems 30 Minute

Drawing Name
Soffit - Firewall 30 mins

Scale
1 : 2 @ A4

Date
1 November 2017

Sheet
36.18.01



FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600 centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour



The external walls are required to be fire rated depending upon the situation when the wall is close to a boundary or a neighbouring property in order to comply with NZBC clause C3. The walls included in this section are load bearing walls as per NZS 3604. Special attention must be paid to junctions and penetrations in external walls. The external claddings may be required to be fixed over a cavity and the cavity must not open into the roof space or sub floor space.

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System
Integra Construction Systems

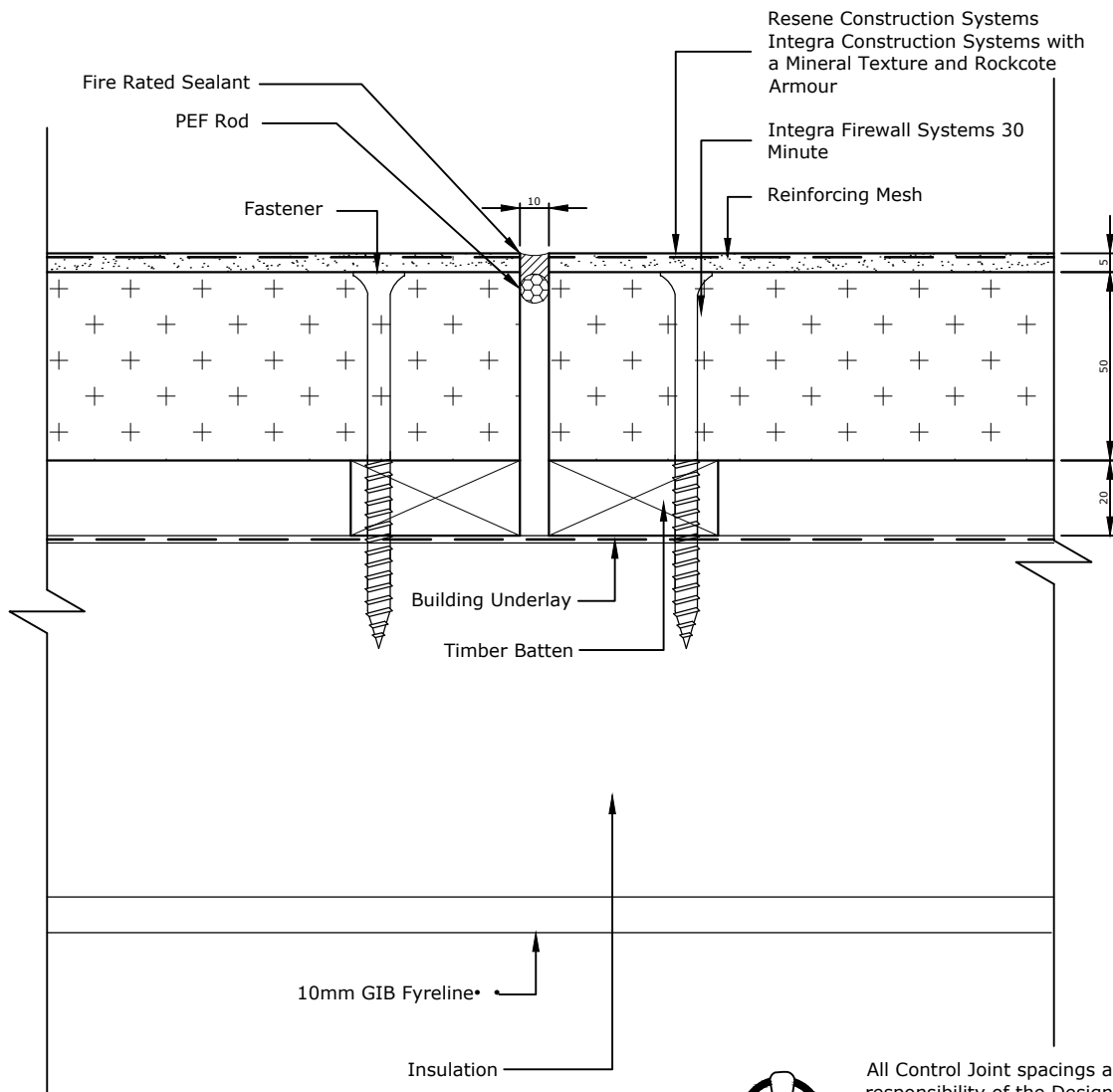
Substrate
Integra Firewall Systems 30 Minute

Drawing Name
External Corner - Firewall 30 mins

Scale
1 : 2 @ A4

Date
1 November 2017

Sheet
36.18.02



FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600 centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour

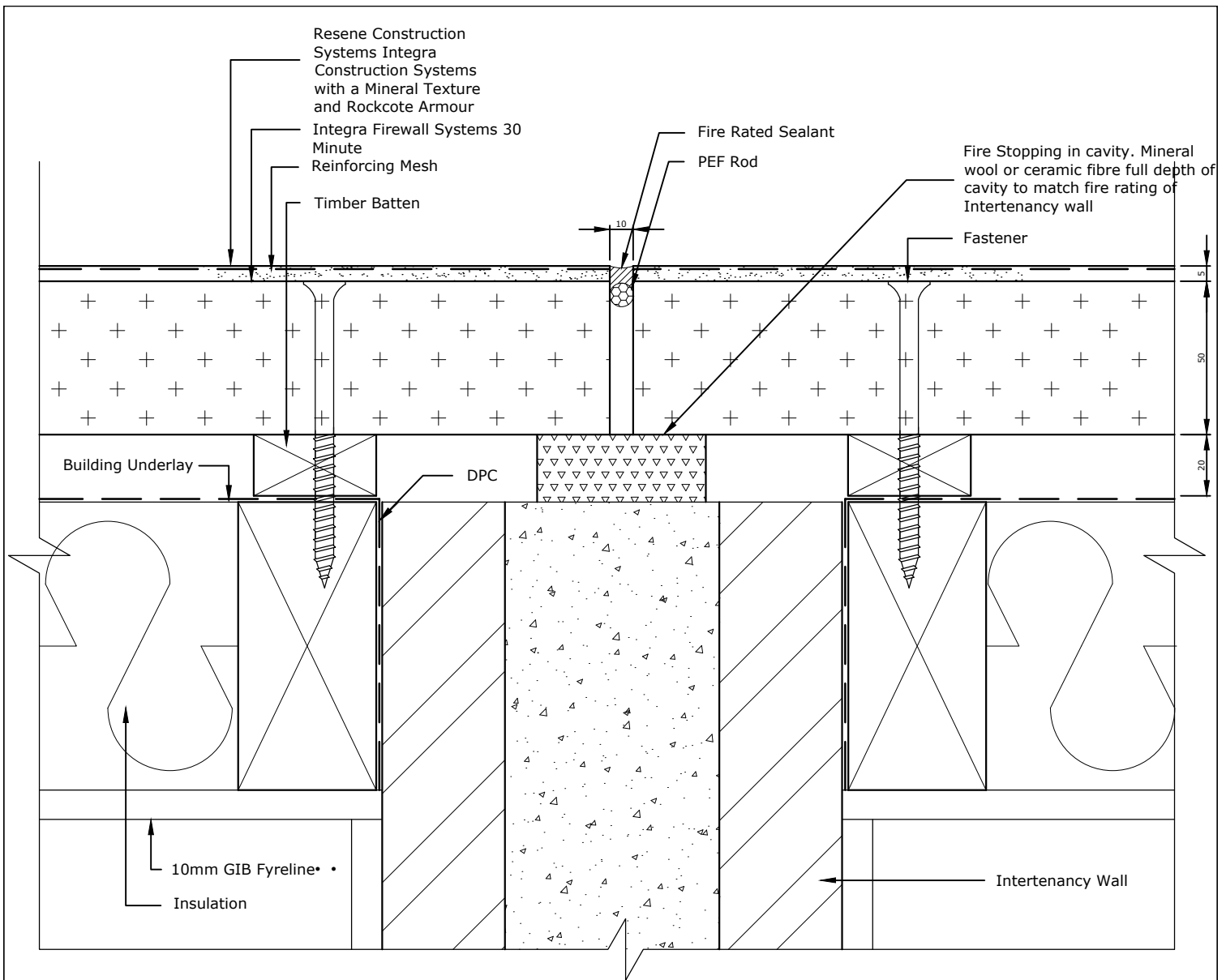
All Control Joint spacings and setouts are the responsibility of the Designer, for suggested

Ensure that a horizontal batten is used to form a horizontal fire break between the vertical fire breaks where the wall meets the soffit/fascia/drainage joint



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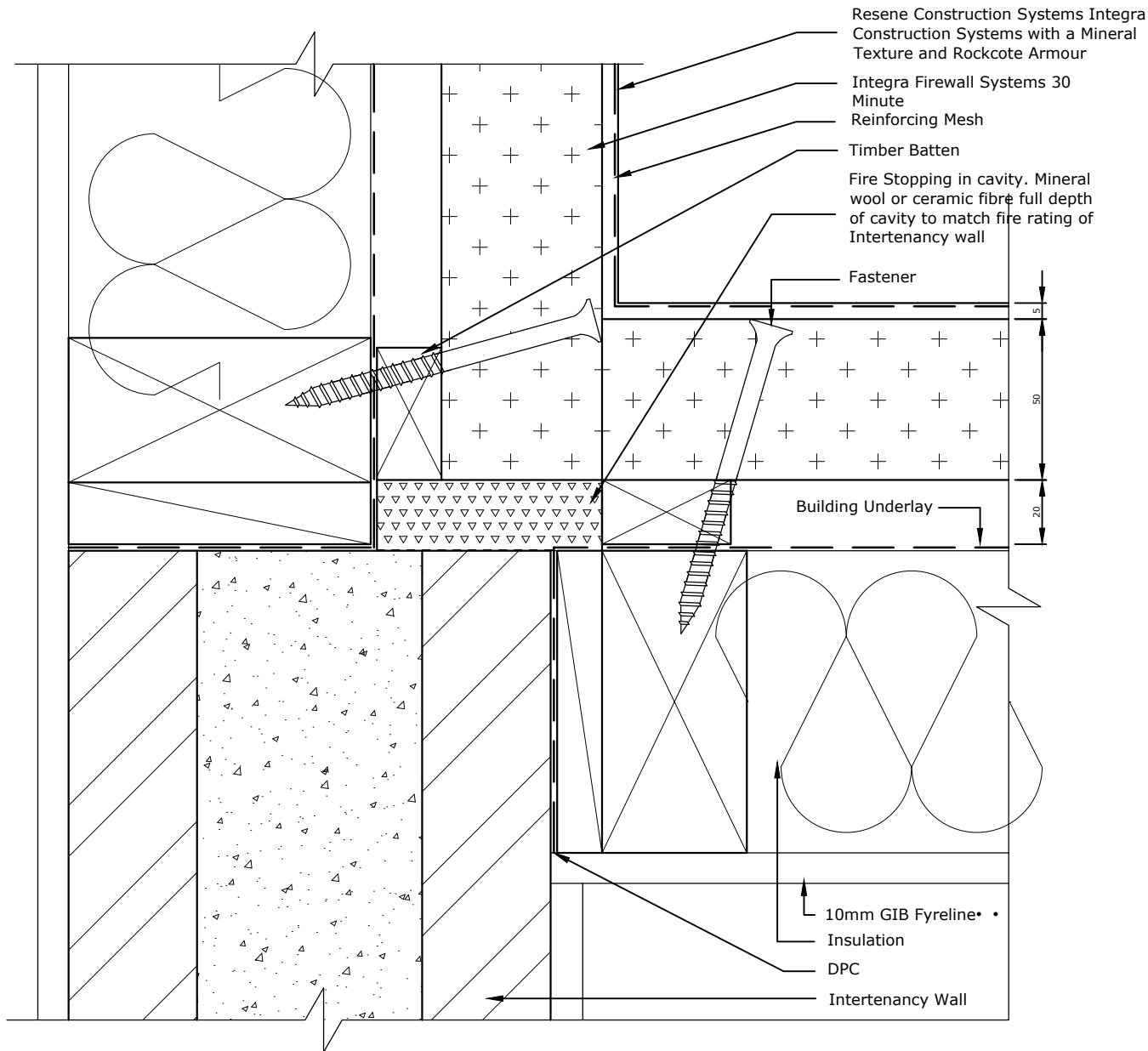
FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600 centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour



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FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600mm centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour



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System
Integra Construction Systems

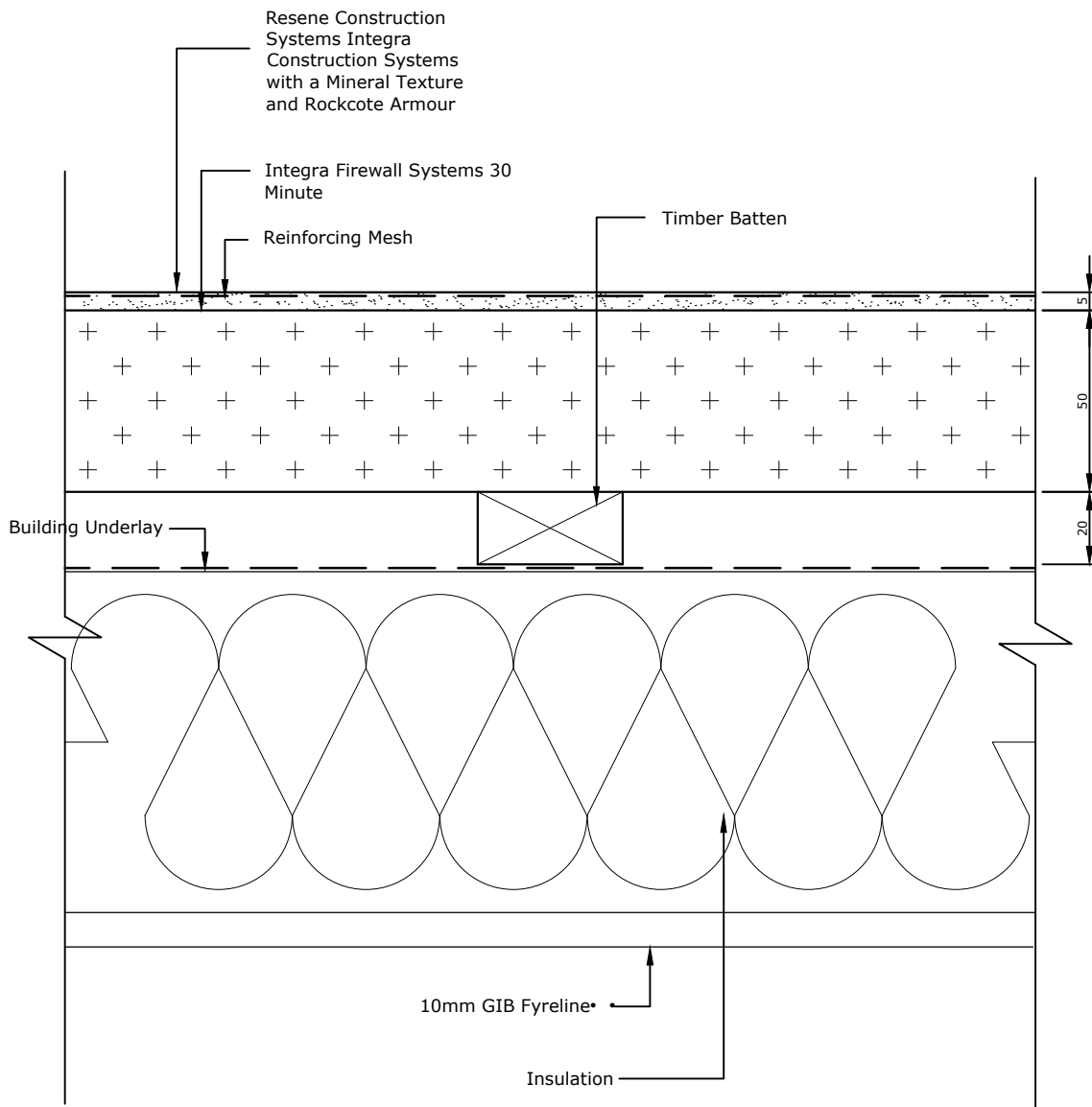
Substrate
Integra Firewall Systems 30 Minute

Drawing Name
Internal Corner (T-Section W Conc Block)

Scale
1 : 2 @ A4

Date
1 November 2017

Sheet
36.18.07



FRR 30/30/30

- 90x45 framing at 400mm centres
- 140x45 framing at 600 centres
- 2400mm stud height
- 50mm Integra Panel
-
- fixed to GBTL 30
- Timber framing as per section 6.3
- Full Render System with Mineral Texture and Rockcote Armour



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System
Integra Construction Systems

Substrate
Integra Firewall Systems 30 Minute

Drawing Name
2 Way Firewall Cross Section - 30FRR

Scale
1 : 2 @ A4

Date
1 November 2017

Sheet
36.18.50

Our Products

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