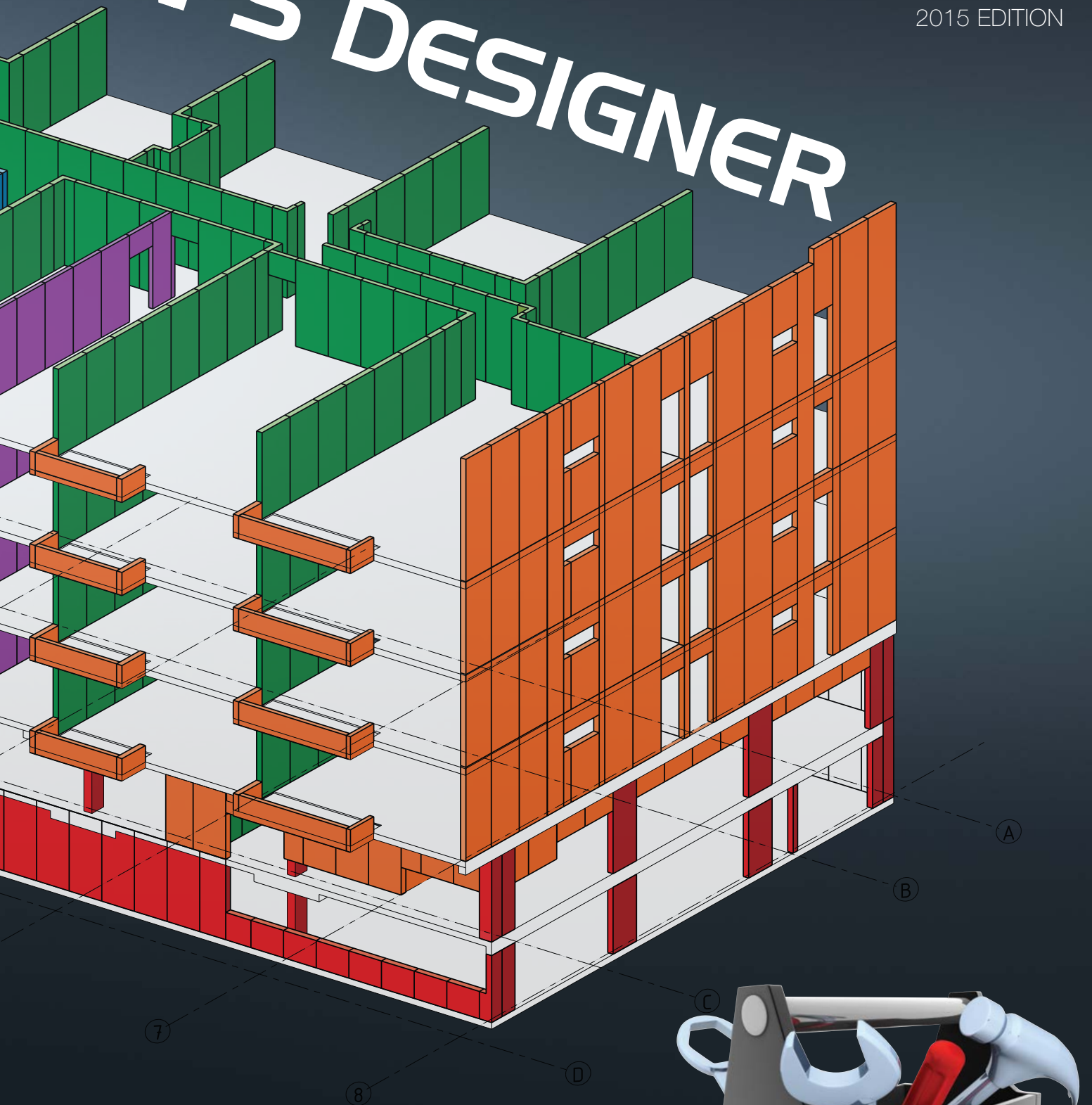


AFS DESIGNER



LOGICWALL®
STRUCTURAL SOLUTION

A | Introduction

A1	Product Description
A2	Product Benefits
A3	Dimensions & Components
A3.1	Single Reinforcement Carriers
A3.2	Double Reinforcement Carriers
A3.3	Components and Accessories
A4	Typical Panel and Component Layout
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This chapter of the AFS Designer must be read in conjunction with all chapters of the AFS Designer.
Important legal statements on inside back cover.

A | Introduction

AFS has a history in the construction industry of manufacturing and supplying innovative prefabricated building systems.

AFS has focused on its major product, AFS LOGICWALL®, which through much research and development has become a leading proprietary walling system for the multi-unit residential construction market. The buildings which make up this market are apartments, hotels/motels, accommodation buildings, nursing homes, aged care facilities, office blocks and shopping centres etc.

These buildings require large amounts of party/separation walls, corridor walls and lift and stair shafts. In most cases they also require boundary walls, external facade walls and blade walls, balcony upstands, basement and retaining walls. AFS LOGICWALL® can be utilised effectively in all these areas, providing benefits for all parties concerned whilst complying with current BCA requirements.

A1 Product Description

AFS LOGICWALL® is a permanent formwork system for concrete walling for external and internal walls. It consists of lightweight sandwich panels created by bonding hard-wearing fibre cement sheets to galvanised steel stud frames. The panels are quickly and simply hand erected on site and then core-filled with concrete to achieve loadbearing walls that are fire and sound rated. The fibre cement sheeting remains in place as sacrificial formwork, and provides an excellent substrate for applied finishes such as skim coating, acrylic render and paint.

The panels can vary in size and thickness to suit a variety of architectural and engineering design requirements. The structural capability of the product when filled with concrete makes it an ideal solution for the construction of buildings such as:

- Multi-unit residential apartments
- Hotels and motels
- Commercial offices
- Shopping centres
- Hospitals
- Prisons

A2 Product Benefits

Speed

The system is renowned for its fast and simple construction leading to earlier project completion.

Structural Capacity

The high strength, thinner walls provide more internal space and reduce the dead load on the structure. The walls act as deep beams and transfer walls, which reduce floor slab thickness and eliminates conventionally formed beams and columns.

Performance

The monolithic character of the system offers consistent, high acoustic ratings which are BCA compliant and excellent fire test results, lateral load resistance and wind and seismic load capacity.

Quality

The system delivers finished, solid-feel concrete walls lined both sides with durable, finished fibre cement sheets ready for skim coating and painting. The system provides accuracy in floor to floor wall alignment resulting in straight and plumb walls.

Efficiency

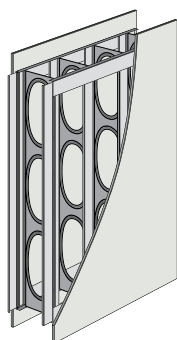
There is a reduction of trades including blockwork, rendering and plasterboard, resulting in major cost and time savings. There is minimal wastage on site and a cleaner, safer workplace. Materials handling, including craneage, is reduced significantly, by up to 80%.

A3 Dimensions & Components

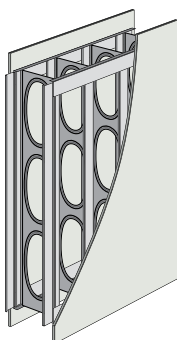
AFS LOGICWALL® comes in five panel thicknesses: 120mm, 150mm, 162mm, 200mm and 262mm. The standard panel width is 1100mm. However, the panels can be manufactured to any width from 200mm up to 1100mm and

any height from 200mm up to 4200mm. Heights exceeding 4200mm can be manufactured upon request and will be regarded as a special order to suit the architectural requirements for each project.

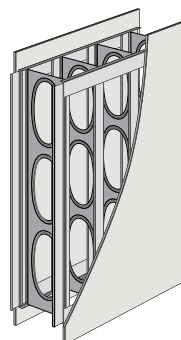
A3.1 Single Reinforcement Carriers



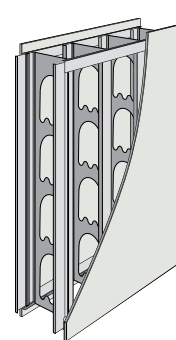
AFS120



AFS150



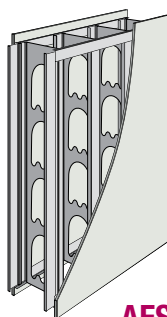
AFS162



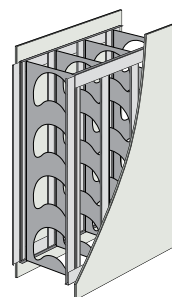
AFS200

Product Code	Sheet Thickness	Stud Width (mm)	Cavity Size (mm)	Overall Thickness (mm)	Filled Wall Mass (kg/m ²)	Unfilled Wall Mass (kg/m ²)
AFS120	6mm x 2 layers = 12 mm	108	108	120	290	26
AFS150	6mm x 2 layers = 12 mm	136	136	148	360	26.5
AFS162	6mm x 2 layers = 12 mm	150	150	162	394	26.5
AFS200	6mm x 2 layers = 12 mm	188	188	200	480	27

A3.2 Double Reinforcement Carriers







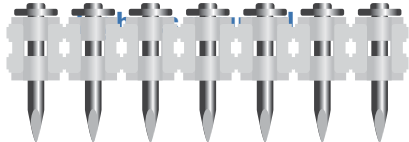
AFS200D




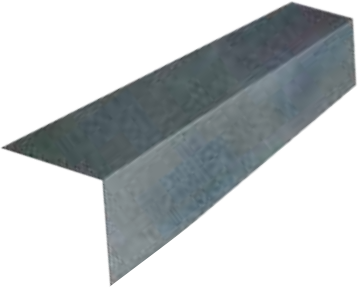
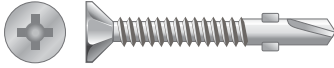


AFS262D

Product Code	Sheet Thickness	Stud Width (mm)	Cavity Size (mm)	Overall Thickness (mm)	Filled Wall Mass (kg/m ²)	Unfilled Wall Mass (kg/m ²)
AFS200D	6mm x 2 layers = 12 mm	188	188	200	480	27
AFS262D	6mm x 2 layers = 12 mm	250	250	262	630	27.5

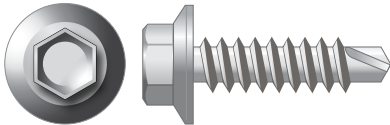

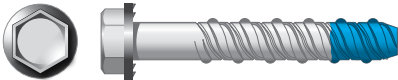

A3.3 Components and Accessories

Item	Description	
Standard LOGICWALL® Panel	6mm fibre cement sheet bonded to galvanised steel stud frame	
Corner Panel	Prefabricated 90° corner panel with factory installed horizontal corner reinforcement	
Sills and Lintels	Infill panels for above and below window and door openings	
Floor Track	To secure the panel to the slab or footing	
Floor Track Pin	For fastening floor track to slab	

A3.3 Components and Accessories continued

Item	Description	
Panel End Caps	To close the panel ends and finish windows and door openings	
Squints	Temporary galvanised angle used for providing temporary additional support where walls change direction at angles other than 90°	
Screws	For mechanically fixing panel joints, end caps and panels to floor track.	
Panel Adhesive	For bonding end caps, floor track and panel joints.	
Wall Braces	Purpose engineered adjustable braces for supporting and plumbing walls during core fill process	

A3.3 Components and Accessories continued

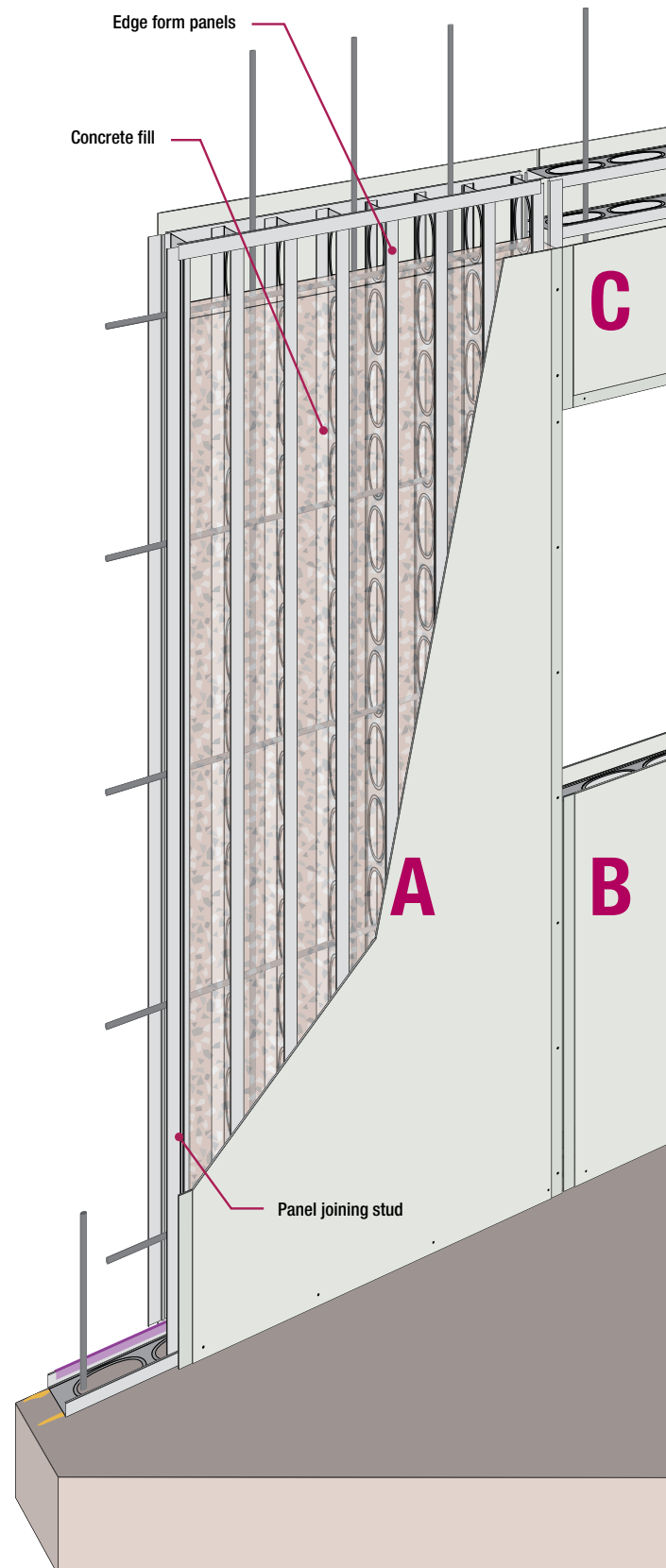
Item	Description	
Brace Screws	For temporary fixing of wall braces to AFS LOGICWALL® panels	
Panel Lifter	For safe and easy installation of AFS LOGICWALL® panels	
Excalibur Bolts	For temporary fixing of wall braces to floor slab	
Door Frames	Fire rated door frames manufactured with profile to suit panels	

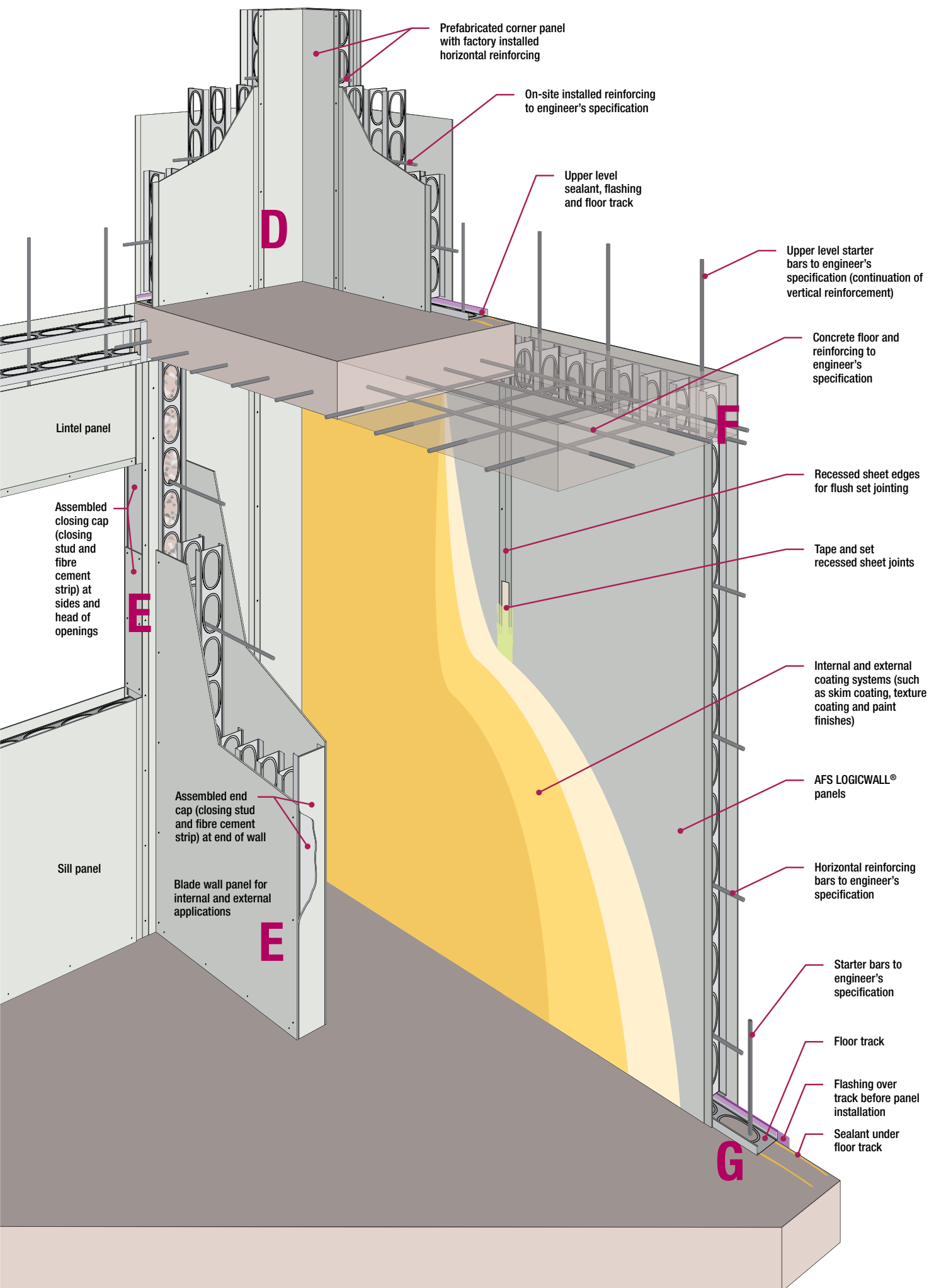
A4 Typical Panel and Component Layout

Fig. A4.1 Typical Panel and Component Layout

KEY COMPONENTS

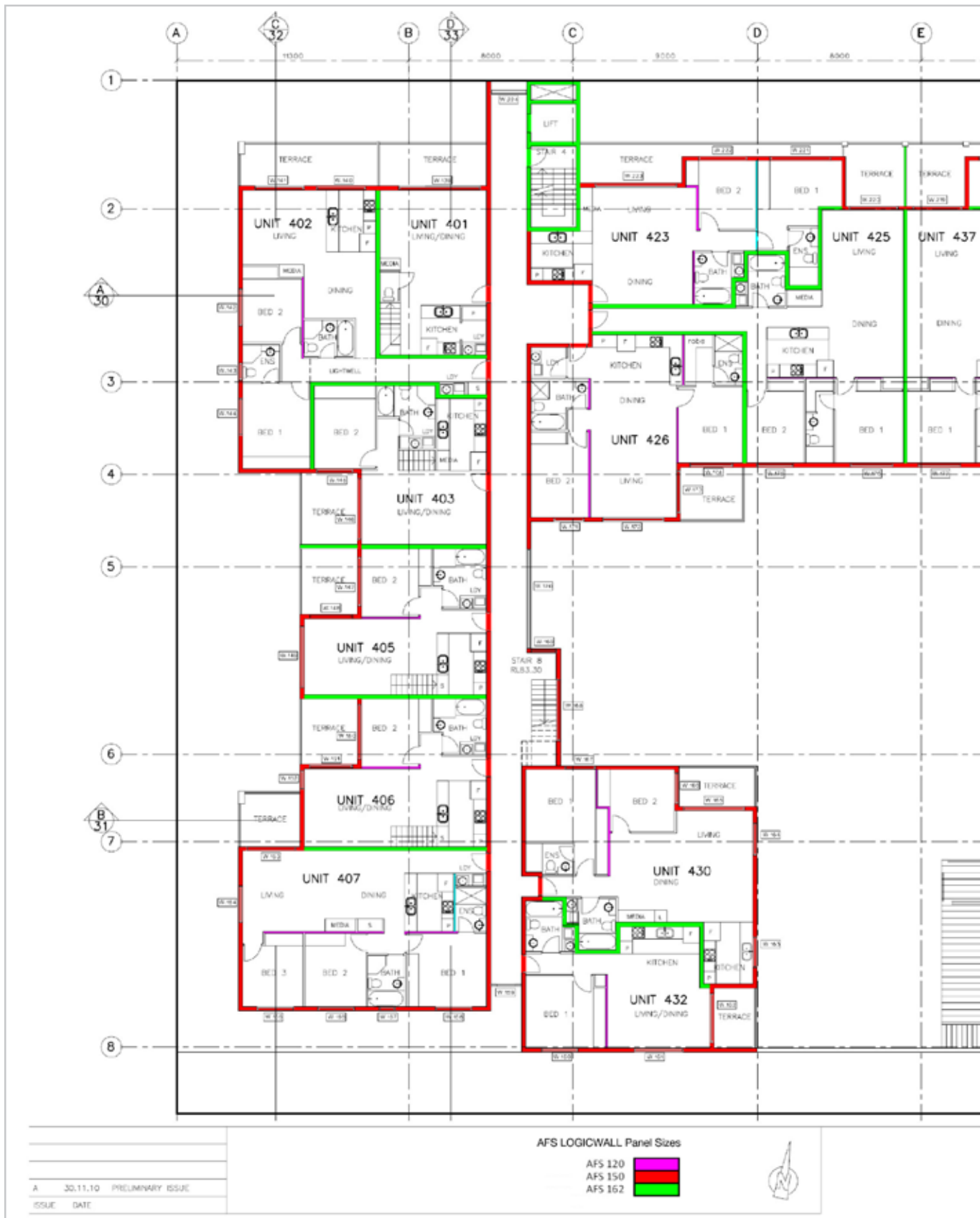
- A Standard Panel
- B Sill Panel
- C Lintel Panel
- D Corner Panel
- E End Cap
- F Edge Form
- G Floor Track

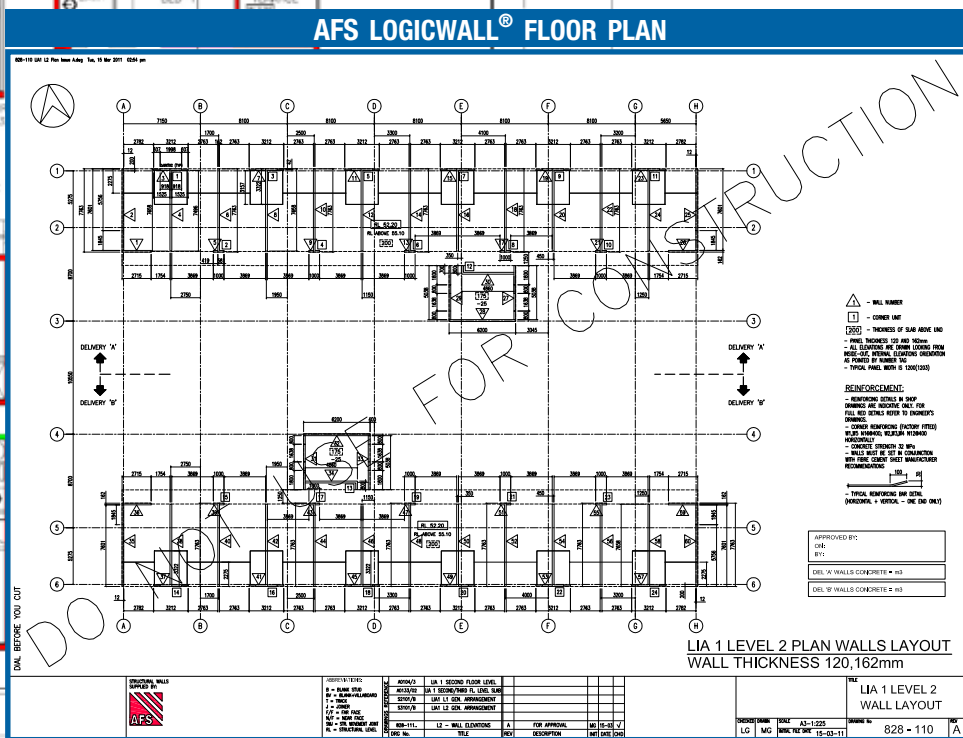
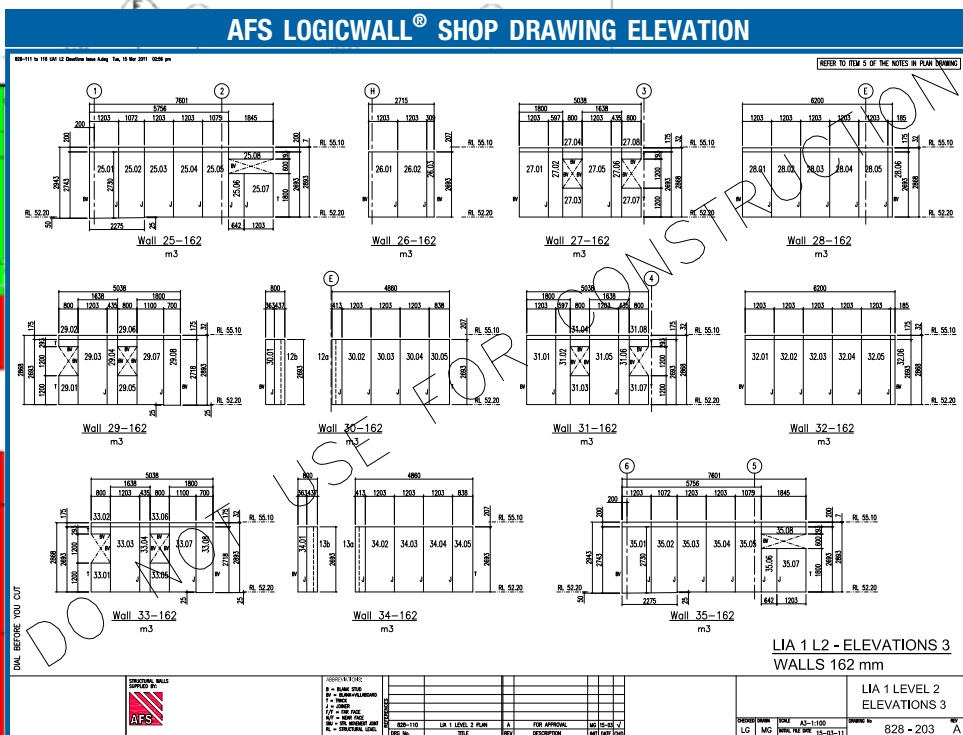




A4 Typical Panel and Component Layout continued

Fig. A4.2 Multi Residential Floor / Panel Layout





A5 The Construction Process Overview

SHOP DRAWINGS

AFS LOGICWALL® panels are custom made to schedules prepared from the construction drawings of the project and each panel is shop drawn and coded for easy identification on site.

PRODUCTION

AFS LOGICWALL® is precision manufactured in facilities capable of producing large volumes of panels with short lead times. The controlled environment and automated machinery helps deliver quality with consistency.

DELIVERY

AFS's in house transportation and logistics team ensures that orders are shipped arriving onsite securely and on time. The panels are flat stacked, creating pallets which are easily delivered to site and craned onto the floor slab ready for placement.

SITE ERECTION

Following set out, the AFS LOGICWALL® panels are hand lifted into place over a steel floor track and reinforcement starter bars. The panels are braced with adjustable braces and then plumbed and straightened.

OPENINGS AND SERVICES

Window and doorway openings are formed with sill and lintel panels which are also scheduled and manufactured to size. Steel door frames are installed with the panels. Horizontal and vertical reinforcement steel and electrical services are placed in the walls. The panel openings and ends are closed with the end cap system.

CONCRETE CORE FILLING

The erected panels are then core filled with concrete with a mix design that is suitable for filling AFS LOGICWALL® using concrete pumping methods. This is mostly done from the formed deck of the next slab or off a scaffold. The concrete walls are then ready to perform as a load bearing structure for the next floor slab or roof structure.

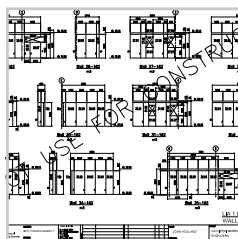
FINISHING OF WALLS

Once the concrete core fill has gained strength and the walls are permanently braced by the floor or roof structure at the top of the walls the temporary braces are removed. The panels are then prepared and joints set with specified setting methods. The walls are then ready for applied finishes such as skim coating and painting.

COMPLETION

The AFS LOGICWALL® system has contributed to the delivery of quality structural internal and external finished walls for buildings ready to occupy.

1. Shop Drawing



2. Production



3. Delivery



4. Site Erection



5. Openings/Services



6. Concrete Core Filling



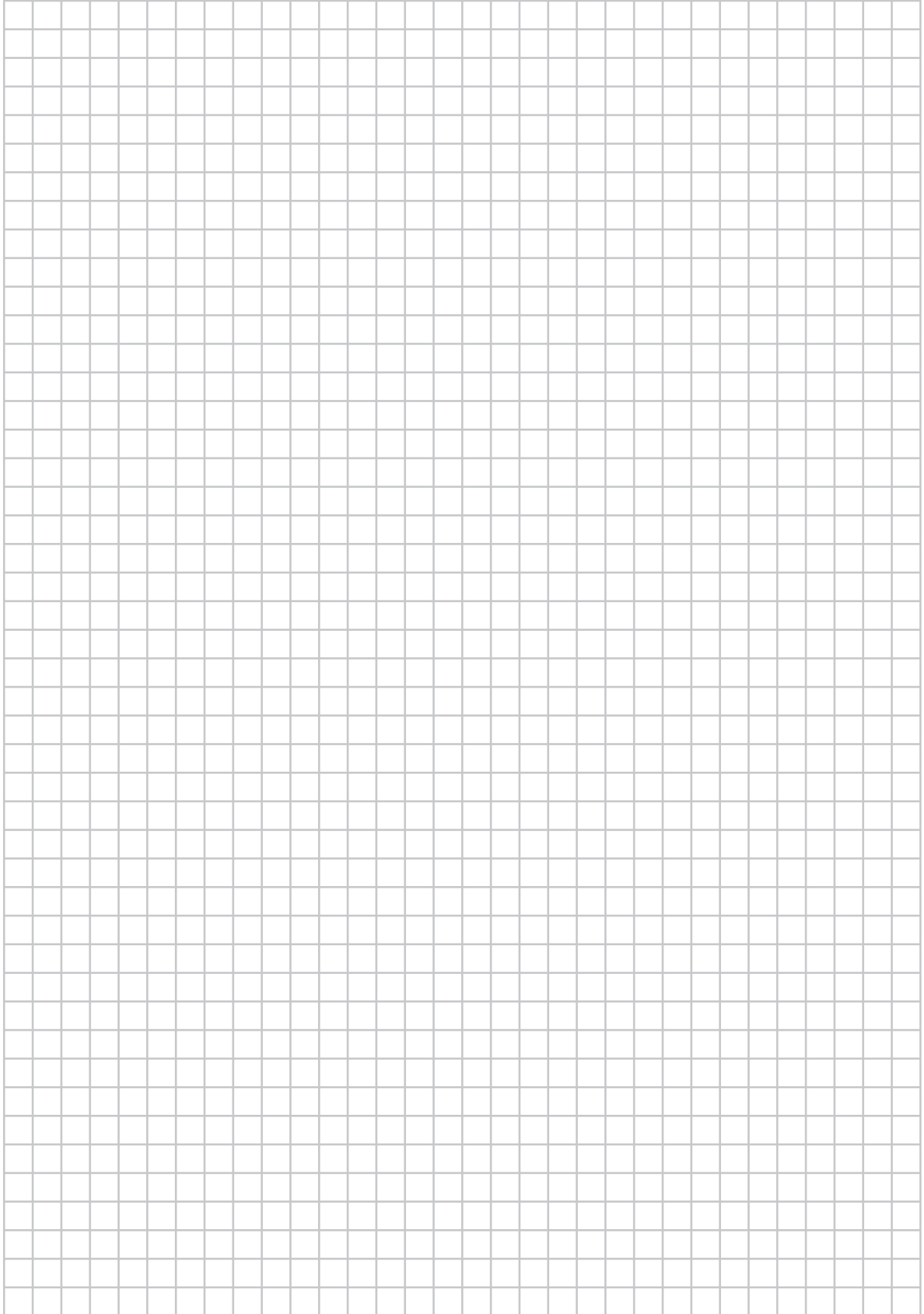
7. Finishing of Walls

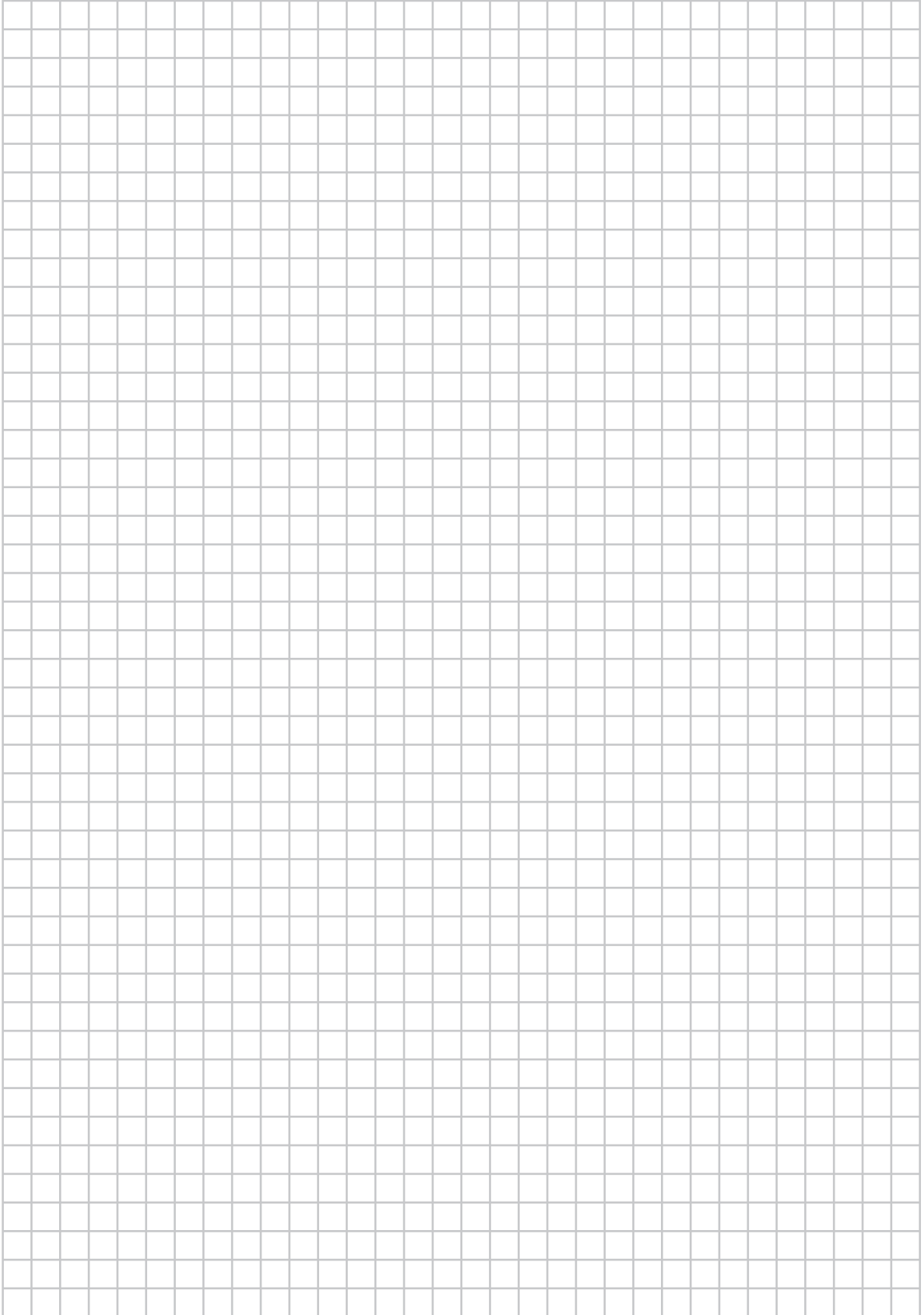


8. Completion



A | Notes





A | Legal Statements

IMPORTANT LEGAL STATEMENTS

Reasonable efforts have been made to ensure the accuracy of this publication; however, any information and data contained herein is subject to change without notice. To ensure the information you are using is correct, AFS recommends you review the latest technical information available on the AFS website www.afswall.com.au, or alternatively call 1300 727 237 to speak to a Technical Representative.

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DISCLAIMER

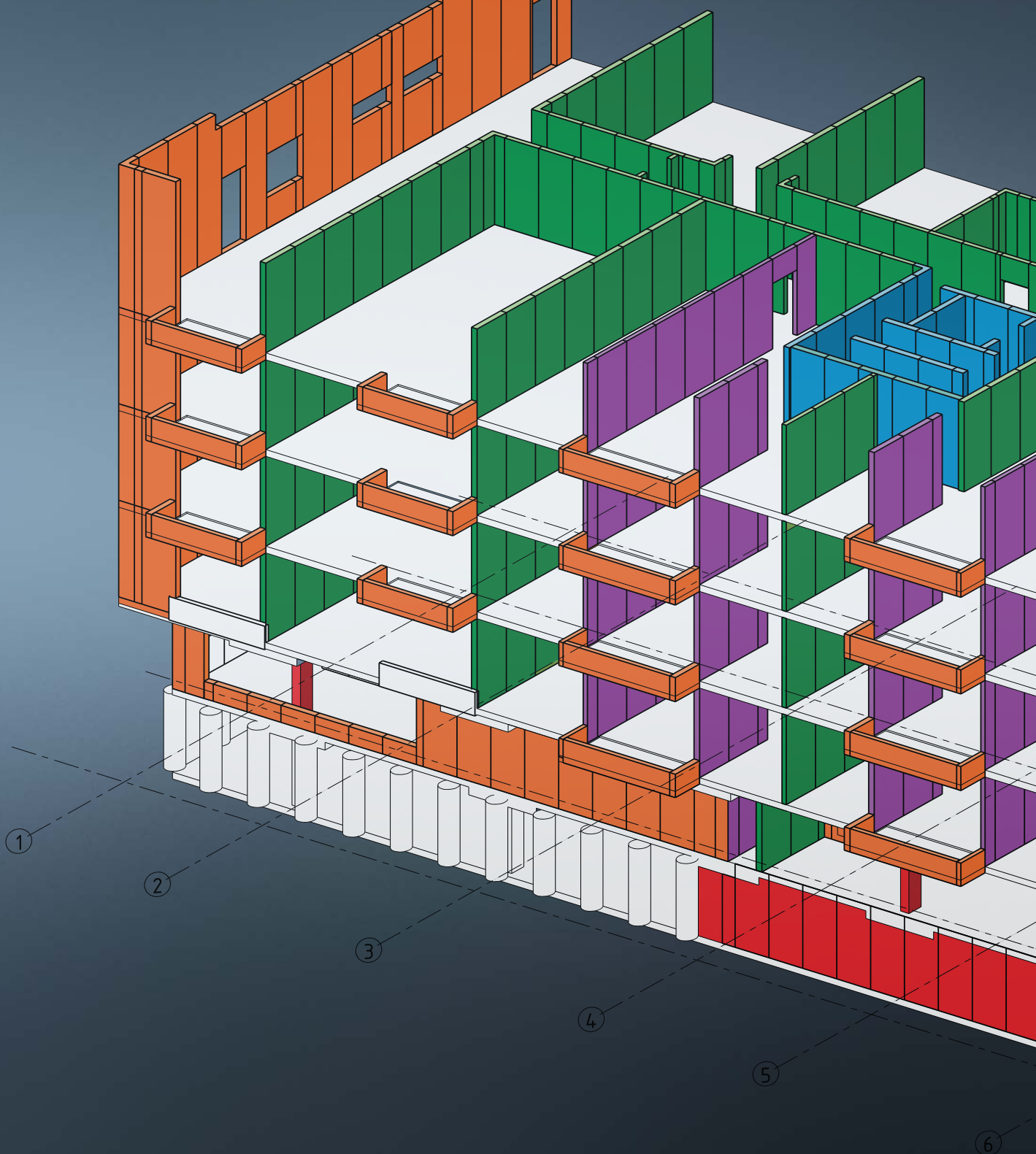
1. This technical manual named AFS Designer together with the design tables and associated information related to AFS LOGICWALL® has been prepared by AFS to assist design professionals using AFS LOGICWALL® including without limitation, developers, builders, engineers, architects or quantity surveyors with the design of structural walls.
2. It is the responsibility of the user to ensure that the use of this manual is appropriate and to exercise their own judgment when using this manual.
3. AFS does not accept any responsibility (whether for negligence or otherwise) for any consequence arising from the use or application of this manual.
4. The design and engineering of the structure of any building using AFS LOGICWALL® should only be undertaken by suitability qualified and experienced design professionals, engineers or consultants.
5. The full responsibility for the design, engineering and structural design, and certification of compliance with all relevant Australian Standards, BCA and any other statutory requirements at Local, State and Federal levels rest with the design professional, project engineer or project consultants including but not limited to the design engineer, acoustic consultant, energy efficiency consultant, fire engineer and any of their officers, employees, delegates, partners, agents and service providers of any nature.
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7. Please check with AFS that you have the latest version as the manual may be updated from time to time and certain details may change.
8. This disclaimer applies to the extent permitted by law.

DEFINITIONS

The use of the terms 'AFS LOGICWALL®' and 'AFS LOGICWALL® Walls' throughout the AFS Designer are as follows;

AFS LOGICWALL®: Refers to AFS LOGICWALL® panels as permanent formwork prior to being installed & corefilled with concrete.

AFS LOGICWALL® Walls: Refers to AFS LOGICWALL® walls installed with concrete corefill incorporated.



Distributed by:

AFS SYSTEMS PTY LTD
 PO Box 234, Minto NSW 2566
 110 Airds Road, Minto NSW 2566
 Phone: **1300 727 237**
 Email: **afssales@csr.com.au**
 Web: **www.afswall.com.au**

ABN 45 576 072 788

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