ACFAPANEL

Light Weight Concrete Wall Panel

High-quality, fire-rated wall system.

Fast, light, and strong. Saves money, time, and speed.

سهل التركيب
Simple construction

تركيب سريع
Quick Installation

عازل للحرارة
Heat Insulation

صديق للبيئة
Eco Friendly

ACFA Panel® has a lightweight core of OPC Cement and expanded polystyrene bead aggregate sandwiched between non-asbestos, fiber cement facings of ACFA Board. ACFA Wall Panels can be used for walls, roofing, flooring, internal partitions (including fire-rated partitions), and prefabricated and relocatable buildings..

ACFA Wall Panel can withstand real punishment in terms of impact load as per BS 5234 and superior fire rating to conventional Brick / Block masonry – yet far lighter with greater versatility in design. Apart from offering a rapid erection system, **ACFA Panel®** allows a more flexible approach to design wherever fire-rated walls are required.

In feel and look, ACFA Wall Panels are a marked improvement over masonry, and the smooth surface is ideal for any decorative finish. This lightweight construction makes considerable savings possible in structural costs while providing greater flexibility in structural design.

ACFA إكفا
BUILDING SOLUTIONS حلول بناء

Light Weight Panels reduce structural costs and provide design flexibility.

The Ideal solution for all buil ding types....!

Health Care | Education | Residential | Industrial | Hospitality | Retail

Available in 2 panel sizes		Available in 2 Thicknesses	
3000X600 mm (Metric)	2400X600 mm (Metric)	100 mm	150 mm

ACFAPANEL

Light Weight Concrete Wall Panel

ACFA Panel® is made from a lightweight core of OPC Cement and expanded polystyrene bead aggregate sandwiched between ACFA Board Facing Sheets. Thanks to the durability of ACFA Board-facing sheets, and the cement base core, ACFA Panels are designed to take the knocks, scrapes, and other rough wall-facing conditions.

Fast Track Assembly System

ACFA Wall panels are erected using a simple and speedy assembly system. Panels have tongue and groove joints, simply sliding between the top and bottom steel or aluminum sections and locking them together. Panel edges are recessed, allowing vertical joints to be taped, set, and sanded flat.

Surface Finish

ACFA Panel® provides a consistently smooth, flat surface to a standard not achievable by rendering, masonry, or lightweight concrete block. ACFA Wall Panel ® panels are delivered to the site ready for installation. Once installed, the panels are ready to use or to finish with any desired decorative treatment.

ACFA

Light Weight Concrete Wall Panel

Overview

ACFA Panel® is easy to handle, erect, and transport, providing flexibility in design and significant structural cost savings. Solid and durable **ACFA Wall Panel** withstands knocks, scrapes, and rough treatment. The rigid panels, with steel strap reinforcing, are also suitable for seismic and cyclone-prone zones.

Combustion of EPS in the panel core does not pose a toxicity problem. The CSIRO Division of Building Research states that the potential toxic hazard for foamed polystyrene appears to be no greater than that for wood.

ACFA

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WATER AND TERMITE – RESISTANT

ACFA Wall Panel is a termite-resistant panel with excellent water-resistant properties that withstand adverse weather conditions.

SAVES SPACE

Slimmer ACFA Wall Panel panels (100 mm) leave you with extra usable floor space without compromising on insulating properties.

INSULATION

ACFA Wall panels provide excellent thermal and sound insulation. The sound transmission coefficient and thermal resistance are similar to masonry.

FIRE RESISTANT

Wherever firewalls are needed, ACFA Wall Panel allows flexibility in design. Its fire ratings are equivalent to those for masonry, with a marked improvement in look and feel.

EASY TO INSTALL

ACFA Wall Panel arrive ready to install. The tongue-and-groove system allows rapid assembly, with panels being slid between the top and bottom steel or aluminum sections and locked together. Panels can be cut with power tools and are ready to use or to finish with any decorative treatment.

SAVES TIME

ACFA Wall Panel's simplicity suits rapid construction techniques. Factory-cured panels mean no on-site curing. The smooth surfaces are ready for surface finishing if desired.

SAVES MONEY

As installation does not require skilled labor or plaster coating, you save by not employing wet trades or other trades. Transport costs are reduced, due to the lightweight construction. Cost per m2 is also far lower than masonry.

Installation

On Performance Characteristics, **ACFA Panel®** exceeds the Building Code of structural tests for lightweight construction.

ACFA Wall Panels are erected using light gauge steel framing at the wall base and head. Varied installation options are available, incorporating channel, angle, or concealed framing systems. ACFA Wall Panels slip together using a tongue and groove jointing system and may be flush set or butt jointed according to project requirements.

ACFA Panel® is suitable for various surface finishes, including paints, wallpapers, and aggregates. The fiber cement facings are immune to permanent water damage, making ACFA Wall Panels suitable for wet area applications.

1 In the installation position of the Panel, the panel is placed vertically to ensure the installation of wall panels is aligned. A 1.5 square meter Panel can be carried freely by two people.

2 **Sawing of Panels**

According to the requirements of mobile machines with an arbitrary cut, adjust the width and length of the wall to minimize the risk of damage.

Make sure you have everything required for installation

3 **Fixing**

Using a specific proportion of slurry and water to turn into a paste, use water to even up the bumps. After that, apply polymer mortar in the grooves in the wall and the baseline of the wall. In the case of steel structures, U Channels of 102mm x 3000mm x 1mm thick should be used at the top and bottom.

4 **Fitting the Panel**

After moving the mortar-covered wall panels to their respective positions, align them vertically with the baseline. Use the crowbar to ensure the wall panels are tightly fitted with one another.

5 In Place

Place the walls together closely so that excess mortar can be scraped away. Finally, temporarily fix the wall in place.

6 Adjustments

Check the adjustments of the wall and make the necessary adjustments.

7 Pasting of Panels

Tongue and Groove are pasted using suitable adhesives (Mix of Cement and Sodium Silicate solution) or as stated in the installation methodology.

8 Jointing & Finishing

Joints are taped and finished using ACFA Jointing Compound and Glass Fiber Mesh Tape.

9 Insertion of Wires

An electric saw will be utilized to create grooves in which switch boxes and wires can be implanted. Any gaps left behind can be filled with cement mortar.

10 Finishing

To finish the wall, tiles may be fitted without any scraping. Wallpaper may also be applied directly onto the wall or the panels can be painted as per the finishing options.

Water based adhesive mortar

11 Installation of Door Frame

All types of door frames can be fitted in the wall. The door frame can be secured with nails and a wall anchor.

12 Fitting of Door and Window

Any door and window type can be fixed in the opening made.

13 Jumbo Height Partition

a. Suitable for non-load-bearing walls up to 4.8mtrs height.

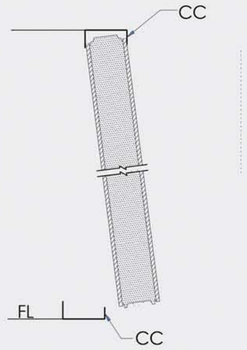
b. Framework/ Steelwork is not required for these types of partitions up to 4.8 meters

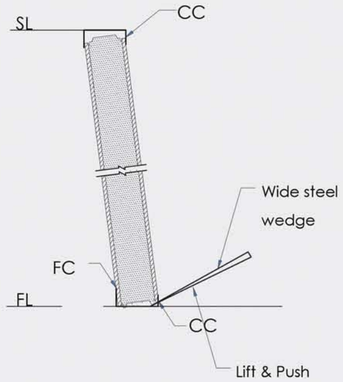
c. In such cases panels are staggered for attaining stability and rigidity.

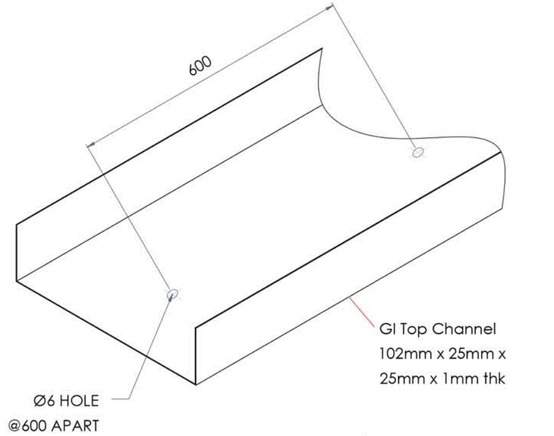
d. Minimum stagger of 1800mm is recommended between horizontal joints of two adjacent panels considering three meter panel length. The length of the panels is to be decided accordingly

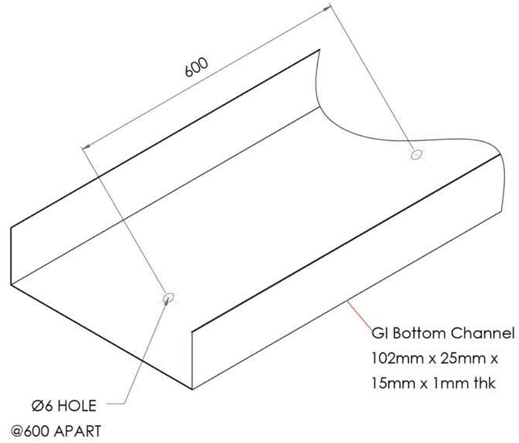
e. Top support such as a G I channel is necessary for such construction type.

ACFAPANEL®









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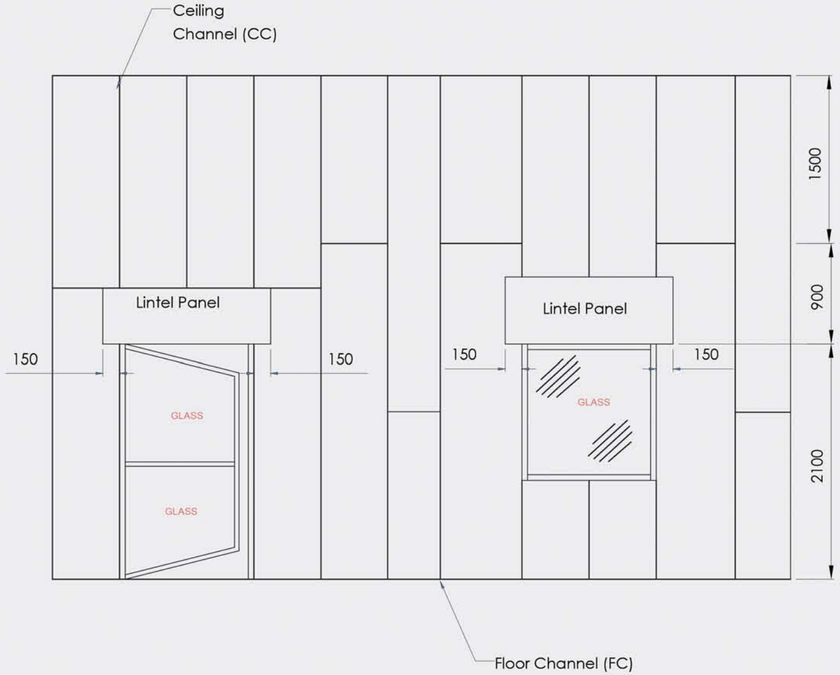
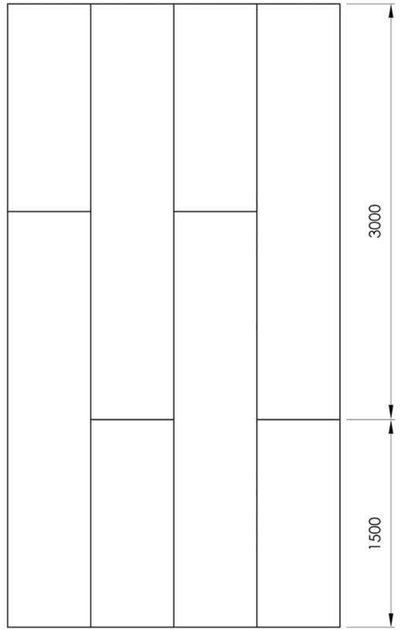


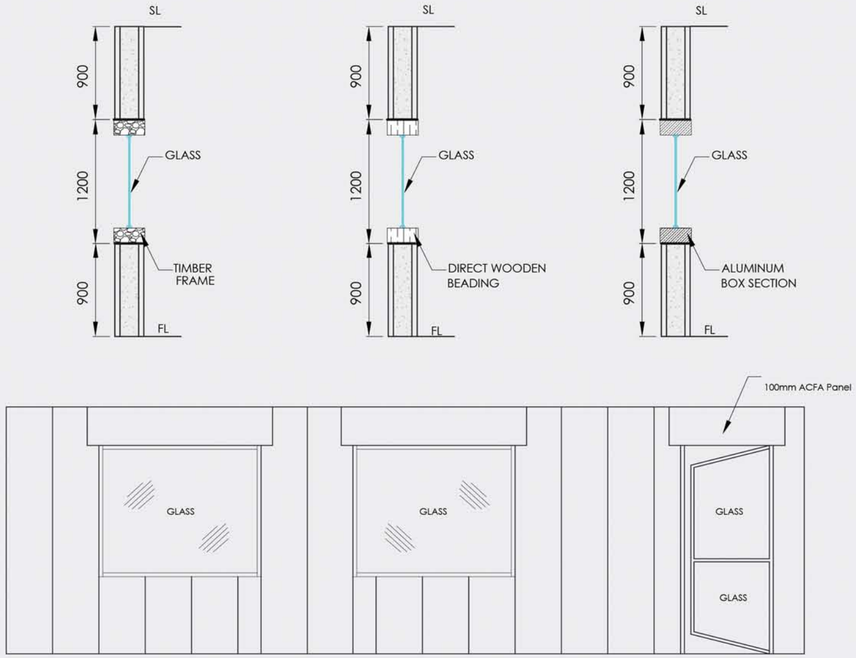
Jumbo Height Partitions
with Door/Window opening.
Vertical



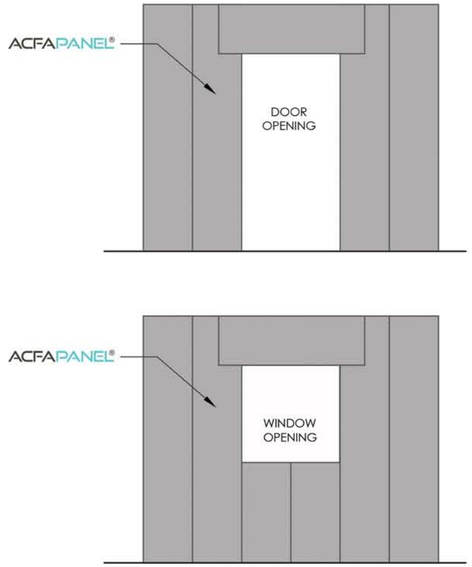
Jumbo Height Partitions
Without Structure Support

ACFA اکفا

ACFAPANEL®



Standard Height Partitions
with Door/Window opening.
Vertical



Window/Door Detailing with 100mm ACFA Panel

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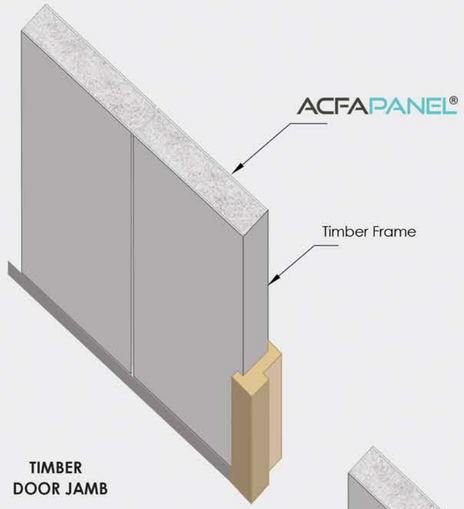
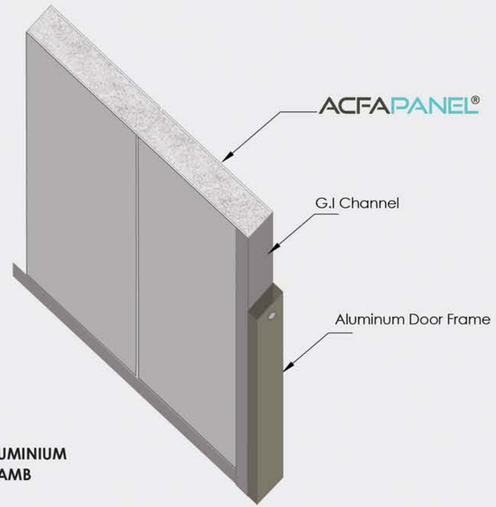


TIMBER
DOOR JAMB

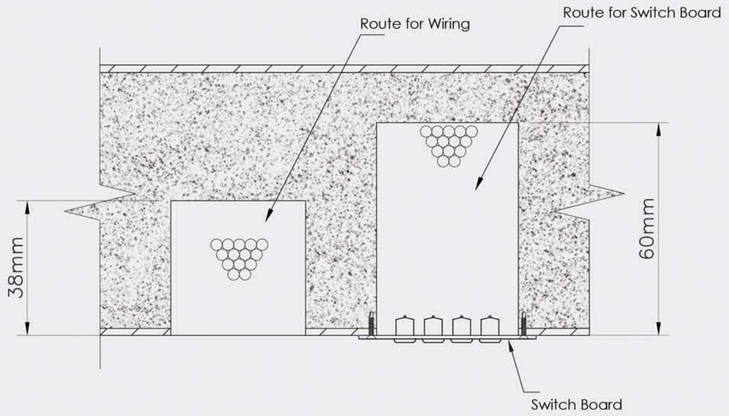


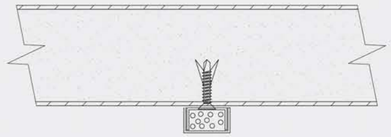
EXTRUDED ALUMINIUM
DOOR JAMB

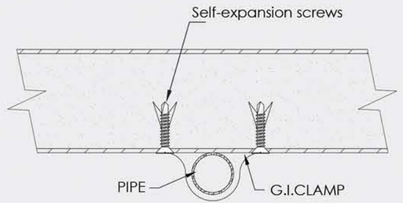
EXTRUDED STEEL
DOOR JAMB

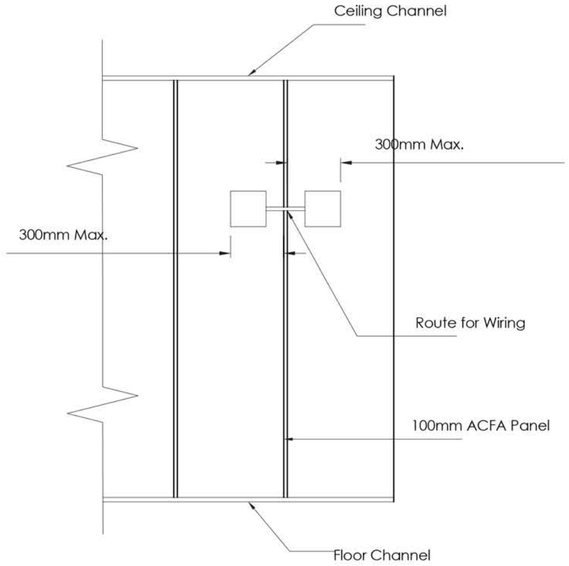
ACFA اكفا

ACFAPANEL®









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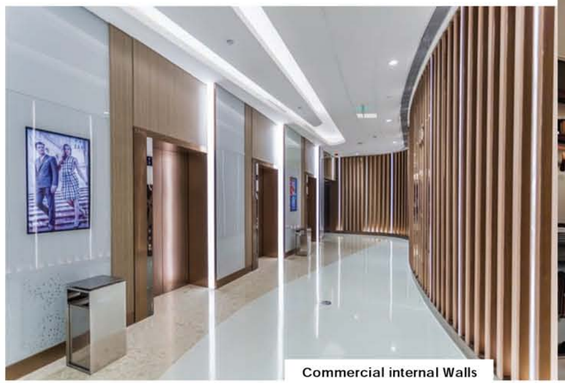
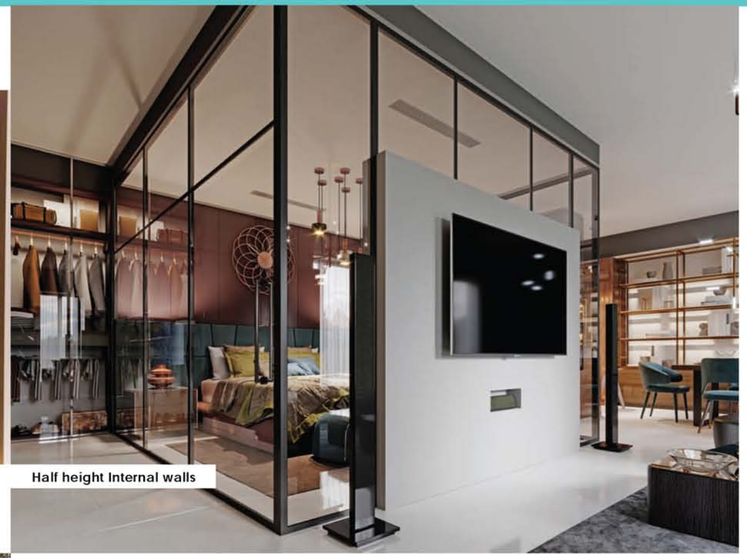


Commercial internal Walls



Half height Internal walls

Non-Load Bearing External Walls

ACFA اكفا

صديق للبيئة
Eco Friendly

عازل للحرارة
Heat Insulation

تركيب سريع
Quick Installation

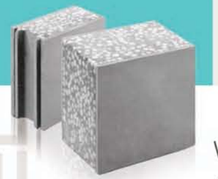
سهل التركيب
Simple construction

TECHNICAL & PHYSICAL SPECIFICATIONS

Sl. No.	Product Characteristics	Performance
1	Length	2400/3000mm
2	Width	600mm
3	Thickness	100mm
4	Panel Weight 100MM	90-100 kg
5	Axial load Bearing	>3.5
6	Bending Damage load	>3.8
7	Sound Transmission (RW)	Under Testing
8	Sound Transmission (RW+ CTR)	Under Testing
9	Fire Resistance 100MM	Class A1 As per EN13501
10	Thermal Conductivity (K)	0.08 W/M2 K
11	Surface Spread of Flame	Class 1
12	Smoke Emission and Toxic Gas Distillation	Not recorded
13	Combustibility	Deemed Non-Combustible
14	Panel Compressive strength (MPA)	>3.0
15	Water Penetration	No evidence
16	Core Water absorption	<20% by volume
17	Partition Stiffness	Passed as Heavy duty
18	Surface damage by hard body Impact	Under Testing
19	Resistance to damage by impact from a large soft body	Passed as severe Duty
20	Resistance to perforation by small Hard body impact	Passed as severe Duty

Looking for an answer?

[f r e q u e n t l y a s k e d q u e s t i o n s]



ACFAPANEL

What is the background to ACFA Wall Panel® Technology?

ACFA Wall Panel® Technology was first patented by the originator, Professor Julius Elischer, of Perth, Australia in 1971. The product has since been developed to the point where it is now regarded internationally as a superior wall solution to conventional brick or block masonry systems.

What is ACFA Wall Panel® ?

As a product **ACFA Wall Panel** type, **ACFA Panel®** is a lightweight interlocking sandwich wall panel using two facings of fiber cement sheet with a cementitious core incorporating lightweight aggregates and non–toxic chemicals. Once the wall panels are erected the surface is finished and does not require further work.

In what size are ACFA Wall Panel® panels manufactured?

TThe standard thickness is 100mm. Normal widths are 600mm. Standard heights are 2400mm & 3000mm.

ACFAPANEL®

Can ACFA Wall Panel® be used in load-bearing situations?

100mm thick **ACFA Wall Panel®**panels used in single-story house walls are capable of accepting up to ten times the conventional roof loading. ACFA Wall Panel ® panels used as load–bearing walls in two-story building structures result in fast and efficient construction.

Where is ACFA Wall Panel® used?

ACFA Wall Panel® can be used as external or internal walls in conventional buildings, remote area housing, transportable houses, demountable refugee housing, disaster shelters, partition walls, fire-rated walls, sunscreens, and facades on multi-level buildings. Panels can also be used for roof sheds, fences, and many other farm uses.

How to increase ACFA Wall Panel ® Sound Transmission capabilities for Hotel or Hospitals Wall Construction?

Increasing the sound transmission coefficient above the range of 49-47dB using a 100mm panel requires a separate wall sheet, which can be attached to one side of the ACFA Wall Panel® leaving an air gap or including special insulation. The cavity so formed is ideal for accommodating services.

How are doors and windows fitted?

Wooden doors and windows are fitted traditionally. Aluminum and steel frames are manufactured so that the jambs or stiles surface fit or clamp around the **ACFA Panel®** walls.

ACFAPANEL

[frequently asked questions]

If the panels are damaged or altered can they be repaired?

Yes, panels may be easily repaired. Panels can be patched or flushed to give a smooth surface finish.

Can ACFA Panel® be used as a fire-rated wall?

Yes, particular care must be paid to jointing methods in the fire-rated application. Manuals are available detailing methods of panel construction and jointing. The 100mm panel will give a fire rating of > 2 Hour– in load bearing applications.

Can ACFA Panel® be used in any climate conditions?

There are no restrictions to **ACFA Panel®** use, although special design techniques must be employed where seismic or high wind load conditions exist. For freeze-thaw conditions, a suitable surface sheet or a special treatment must be applied to the panels.

ACFAPANEL®

How are electrical conduits and plumbing installed?

The **ACFA Wall Panel®** may be surface chased; the conduit inserted, cut, filled, and flushed to a smooth finish. The panel can also be bored down the core to take electrical wiring or other services.

Are the panels capable of carrying fixtures ?

Yes, fixtures such as toilet cisterns, cabinets, and air conditioning units are secured with conventional fixings. A chart is available detailing test results with various fixings.

What are the advantages of ACFA Wall Panel® over traditional wall types?

ACFA Panel® combines the speed of assembly, quality finish, high fire rating, and solid masonry feel while eliminating wet trades. Good thermal and sound transmission co-efficiency make it an ideal solution for almost all internal and external wall requirements.

If any questions remain unanswered,

please contact info@acfasa.com or visit www.acfasa.net

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ACFAPANEL®

HIGH QUALITY, FIRE-RATED WALL SYSTEM

BRICK WALL versus ACFA Panel

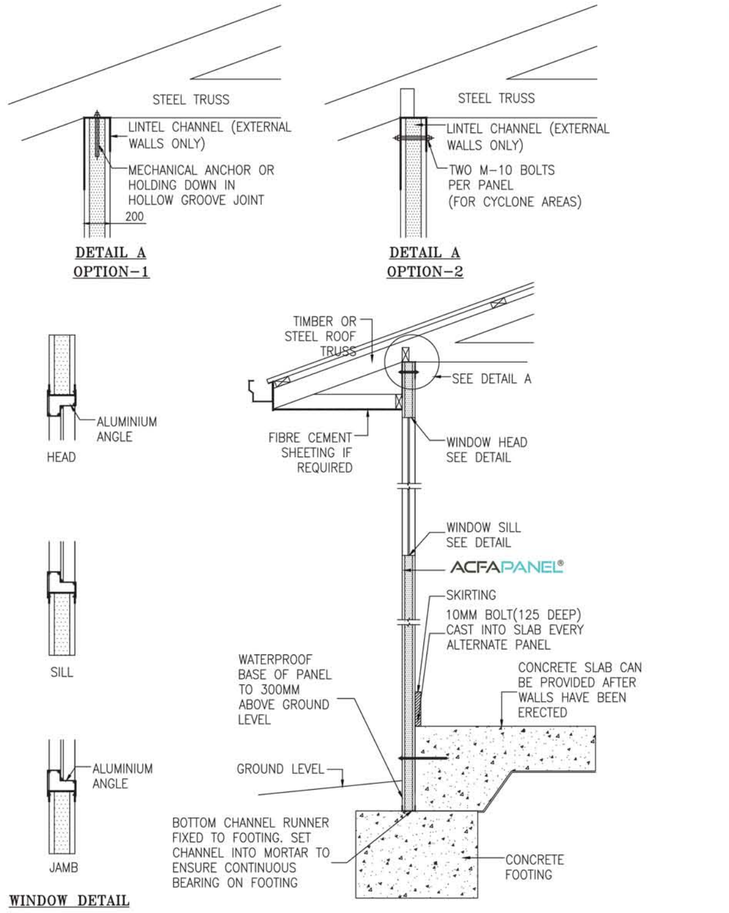
- Saving in structural cost
- Easy waste Handling, and economical Material.
- Better occupant's comfort.
- A high-end finish can be easily achieved with putty & paint.
- Improved energy-efficient interiors.

Parameters	Unit of Measurement	9" Plastered Brick wall	Acfa Panel	Remarks
WEIGHT	Kg / Sqm	250	56	ACFA Panel is ¼ the weight of the traditional brick wall
CONSTRUCTION TECHNIQUE	Wet / Dry	Wet	Dry	Fast Erection (1/3 the time) Easy Waste Handling "Speed is Money"
STRENGTH(Impact Resistance)	Rating in Duty	Severe Duty	Severe Duty	Equivalent.
SURFACE FINISH	---	Requires POP punning on plaster for high-end finish	Provides smooth surface.	ACFA Panel eliminates the cost & time of POP Punning.
			light weight, do not require any structural support.	ACFA Panel allows post-erection design layout modifications.
Thermal Insulation	U-Value in W/m2k	6.03	1.85	The lower the U-Value, the better the thermal insulation.
			134 Minutes	Lower the U-Value better the thermal insulation.
Sound Insulation	STC in dB	38	40	Sleeker Drywalls with better sound insulation

ACFAPANEL®

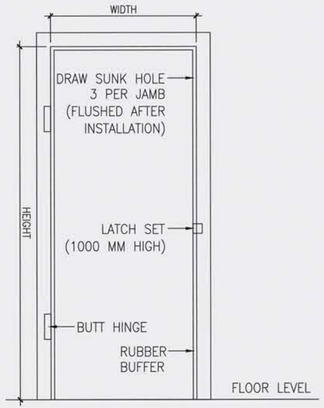
TECHNICAL DRAWINGS

ACFA



Typical Footing and Eaves Detail

ACFAPANEL®



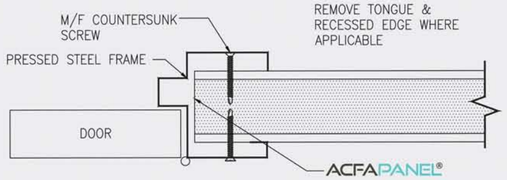
PRESSED STEEL DOOR FRAMES MANUFACTURED FROM 1.2MM ZINCANNEAL STEEL AND MADE TO THE FOLLOWING STANDARD SIZES:

SINGLE	DOUBLE
2040X620	2040X1240
2040X720	2040X1440
2040X620	2040X1640

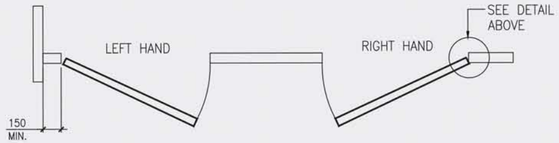
TYPICAL SIZES CAN BE MADE TO ORDER, M/F SCREW INSTALLED WITH DOOR FRAME

WHEN ORDERING QUOTE:
SIZE OF DOOR
2 OR 3 HINGES
HAND OF DOOR OR SLIDING DOOR

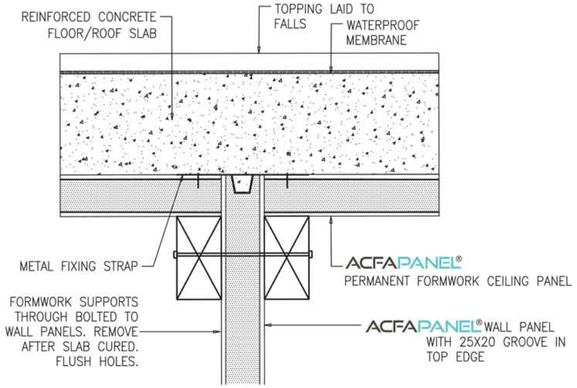
DOOR FRAME ELEVATION



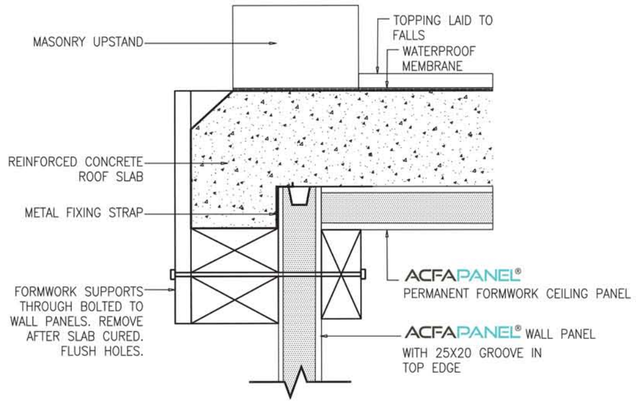
TYPICAL DOOR JAMB FIXING DETAIL



HAND OF DOOR



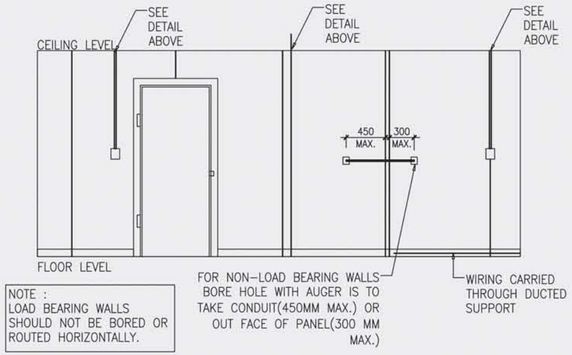
INTERNAL WALL ELEVATION DETAIL



EXTERNAL WALL ELEVATION DETAIL

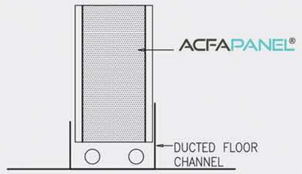
ACFA اكفا

ACFAPANEL®

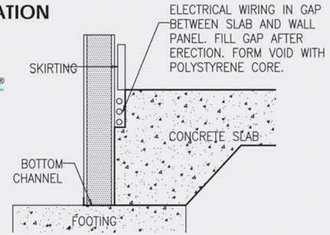


METHODS FOR INSTALLING ELECTRICAL WIRING IN ACFAPANEL® WALLS

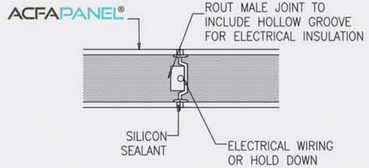
ELEVATION



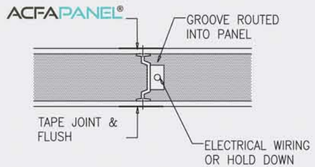
INTERNAL WALLS
ELEVATION DETAIL



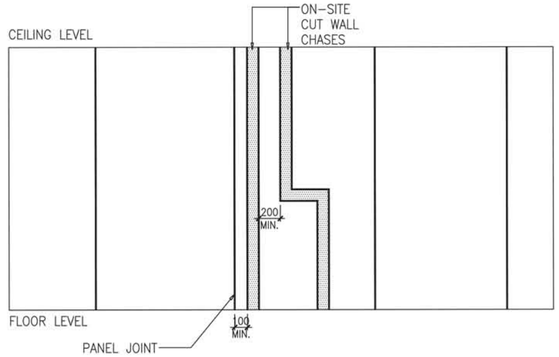
EXTERNAL WALLS
SECTION



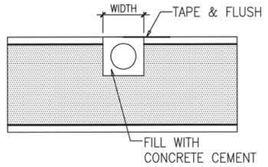
INTERNAL AND EXTERNAL WALLS
PLAN DETAIL



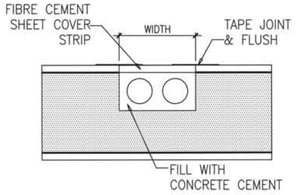
INTERNAL WALLS ONLY
PLAN DETAIL



WALL CHASES
ELEVATION



WIDTH<=50MM
OPTION 1
PLAN DETAIL



50MM<WIDTH<=2XPANELTHICKNESS
OPTION 2
PLAN DETAIL

CHASING OF SERVICES

- CUT CHASES FROM ONE SIDE ONLY PER PANEL. TAKE CARE NOT TO DAMAGE REVERSE SIDE FACING SHEET.
- A+B=$\frac{1}{3}$ PANEL WIDTH.
- MAXIMUM CHASE WIDTH = 2.0 PANEL THICKNESS.
- MINIMUM EDGE DISTANCE AND SPACING AS ILLUSTRATED.
- HORIZONTAL AND VERTICAL CHASES MAY INTERSECT BUT NOT CROSS.
- TOTAL CUMULATIVE WIDTH OF ALL CHASES $\frac{1}{3}$ OF PANEL WIDTH.
- CUT CHASES USING ELECTRICAL SAW WITH DUST EXTRACTION EQUIPMENT GROUT CONDUIT INTO VOID AND MAKE GOOD USING CORNICE CEMENT. OVER CHASES WITH PAPER TAPE AND JOINT SETTING COMPOUND.

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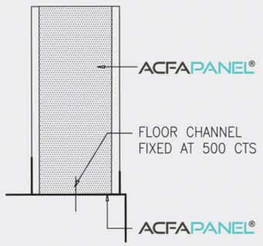
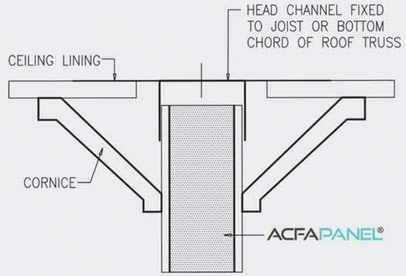
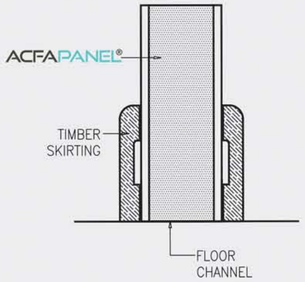


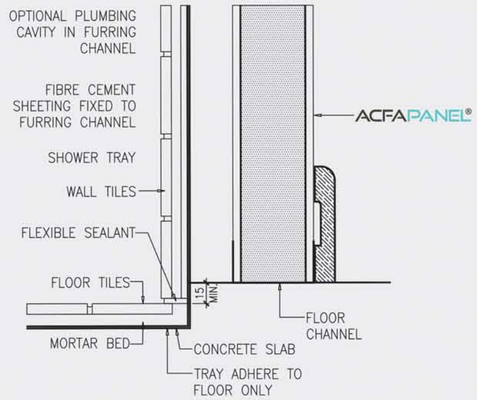
EXTERNAL FLOOR FIXING
ELEVATION DETAIL



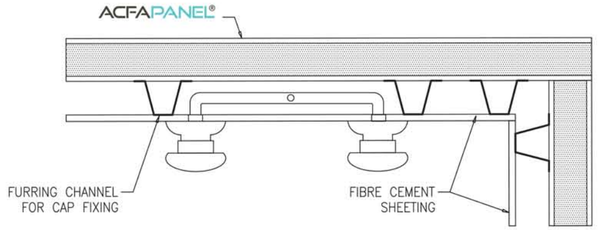
FIXING AT CEILING
ELEVATION DETAIL



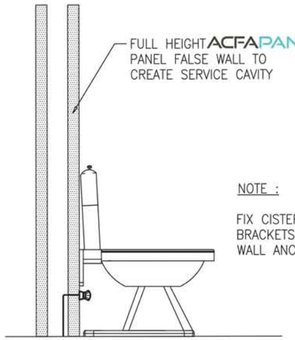
INTERNAL FLOOR FIXING
ELEVATION DETAIL



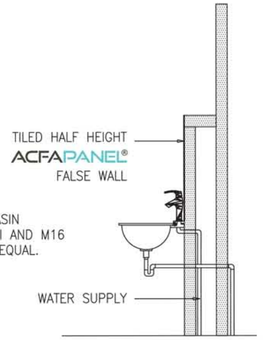
SHOWER SET DOWN
ELEVATION DETAIL



SHOWER TAP FIXING
ELEVATION DETAIL



TOILET DUCT
ELEVATION DETAIL



VANITY BASIN DUCT
ELEVATION DETAIL

NOTE :

FIX CISTERN AND BASIN BRACKETS WITH HILTI AND M16 WALL ANCHORS OR EQUAL.

NOTE :

FALSE WALLS CAN BE USED TO SERVICE CAVITIES AS SHOWN ABOVE.

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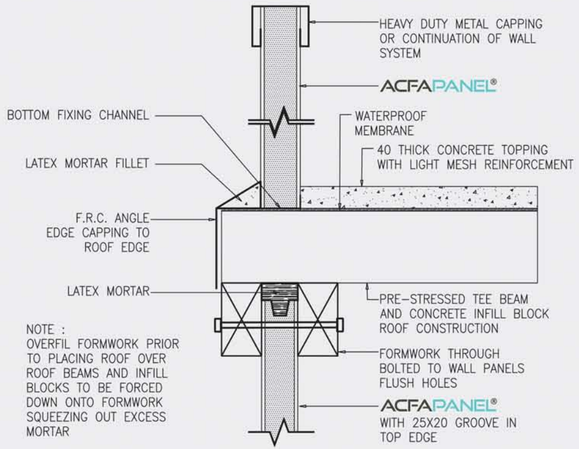
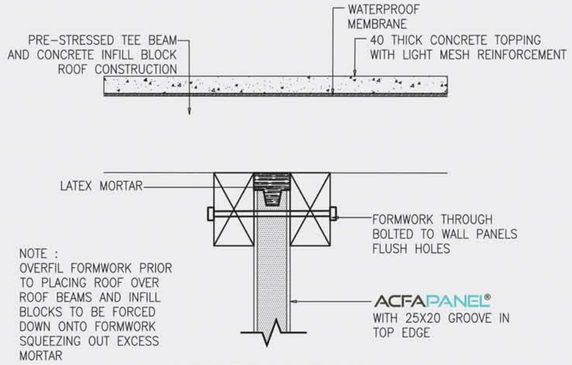


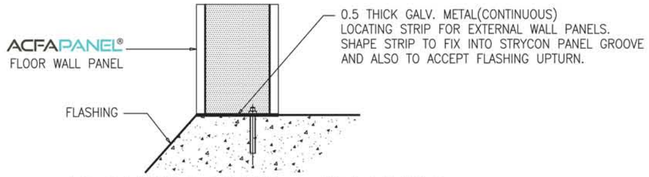
EXTERNAL WALL

ELEVATION DETAIL



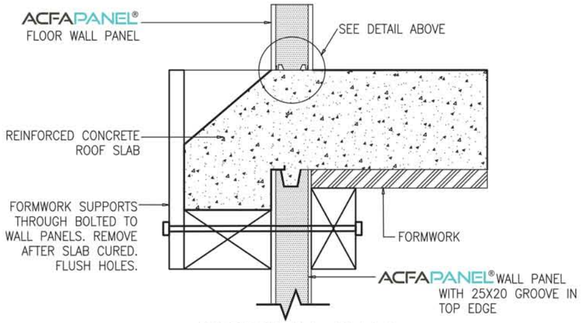
EXTERNAL WALL

ELEVATION DETAIL



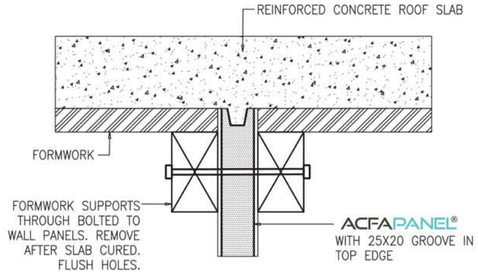
LOCATING STRIP & FLASHING

ELEVATION DETAIL



EXTERNAL WALL

ELEVATION DETAIL



INTERNAL WALL

ELEVATION DETAIL

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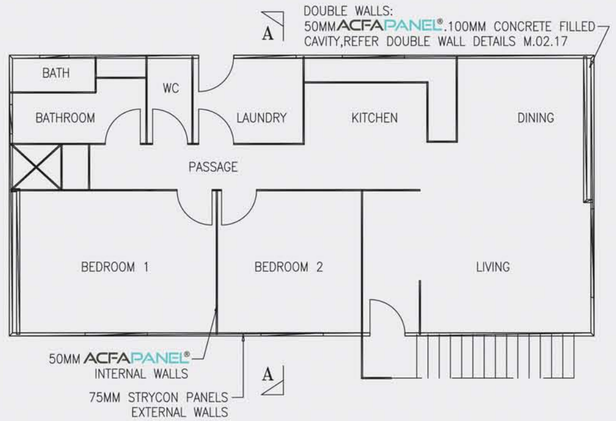
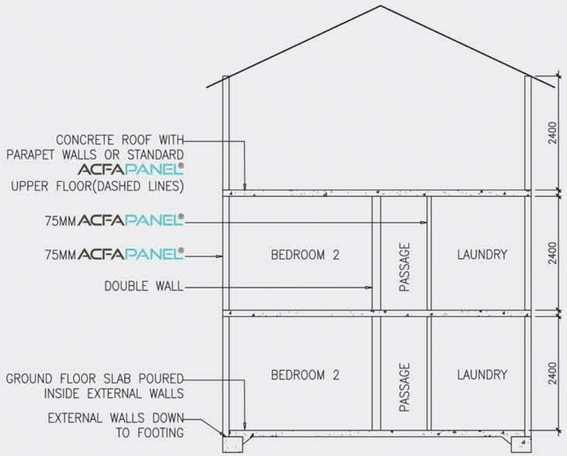
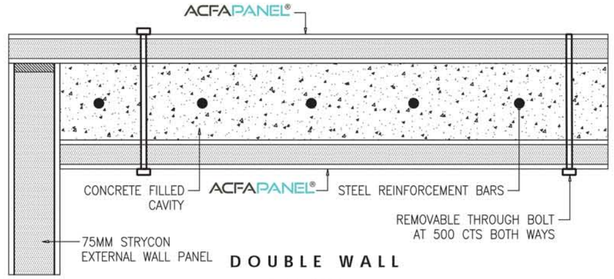


FLOOR PLAN

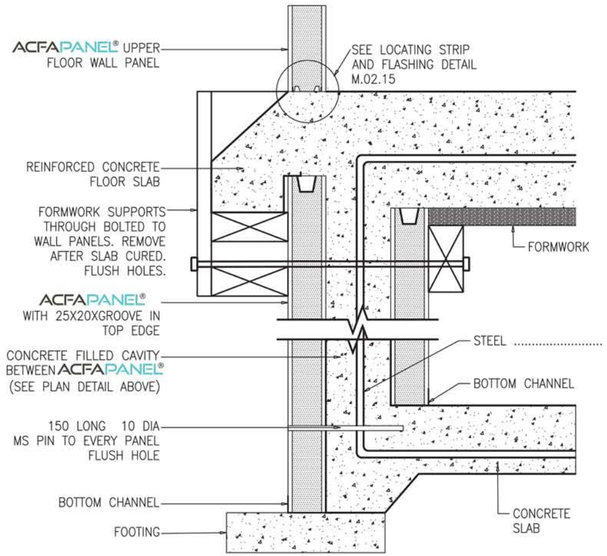


SECTION A



DOUBLE WALL

PLAN DETAIL



EXTERNAL DOUBLE WALL

ELEVATION DETAIL

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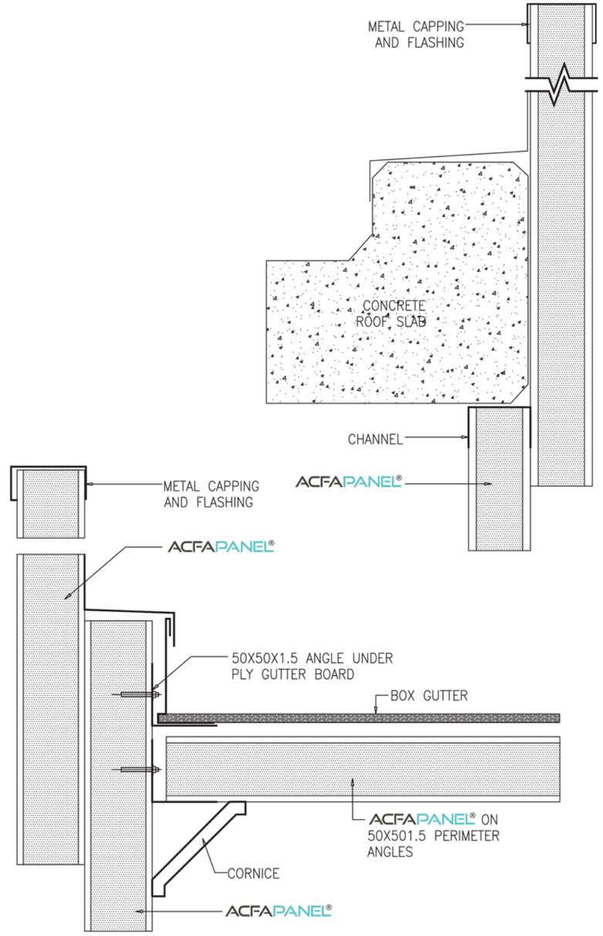

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ACFA كفا
BUILDING SOLUTIONS حلول بناء
www.acfasa.net
E-mail info@acfasa.com

المملكة العربية السعودية . صندوق البريد: ٢٨٥٣ الرياض ١٣٣٢٢
Ksa P.O.Box: 2853-Riyadh 13322