

## CONSTRUCTION METHODOLOGY FOR LIGHT GAUGE STEEL FRAME SYSTEM

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Steel Framed Engineered Solutions Ltd  
A Division of A P Scott Trinidad Ltd

The design review and structural inspection of these structures were undertaken by an independent **Registered Engineer, Mr. Vaughn Lezama (Reg. # 04-110).**

### **Structural System**

The structural framings and skeleton of the prototype structures consist of cold formed steel elements in accordance with Australian Standard AS1365. The following profile sections are used in the design of All Pre- Engineered Structures: -

1. All vertical, horizontal and diagonal bracing members – 16G steel with C9015 profile
2. Wall panels are anchored to concrete foundation slab with Mechanical Wedges at 24” O.C
3. Flooring system to two-level structures - 16G with C20015 profile
4. Upper wall panels to two-level structures – 18G and 20G steel with C9010 profile.

### **Building Codes and Standards**

The cold formed steel structure Code used for the design is **AS/NZS 4600:1996: “Cold Formed Steel Structures”** which is a joint Australian/New Zealand Standard. The cold formed materials used in the construction of the structures are supplied out of Australian and as such the AS/NZS Codes have been used by the developer as the applicable Code for the design of the cold formed steel system used for construction of the residential structures.

### **Inspection Procedure**

The Inspection and structural review procedures adopted for all structures are as follows:

- Review of the approved building plans and construction details
- Review of the applicable design Codes and Standards for cold form steel structures
- Desk Top research of cold formed steel construction design and practice as obtained in jurisdictions which use Codes and Standards that have been adopted and/or approved by the Design Branch of the Ministry of Works and Infrastructure.
- Detailed visual inspection of the shapes, thickness, arrangement and fixing of the various structural elements and connection details including vertical and horizontal studs, lateral braces, fasteners, floor bolts, straps, hurricane ties, screws and hangers of structures under construction

### **Evaluation of Structural Integrity**

A close visual inspection of structures in varying stages of completion allowed for an evaluation of the arrangement and fixing of the materials which comprise the structural system, the quality of the workmanship in the construction of the system and the consistency of construction best practice which altogether attest to the integrity or lack thereof of the structures under review.

In general, the structures are constructed consistently in keeping with code requirements and the design and intent of the design drawings. Furthermore, the quality of the workmanship and materials are of a standard which equates with the best expectation of low rise cold formed steel structures construction practice. This applies to the arrangement and fixing of the cold formed steel structural elements which were visually examined.

### **CERTIFICATION**

Based on the inspection and structural evaluation undertaken and in my considered professional engineering judgment I hereby certify that the design and construction of the cold form steel building structures as detailed on the attached drawings to which I have affixed my stamp and signature are in keeping with the reference Codes and best industry practice for residential cold formed steel structure construction.

The residential structures as constructed will therefore meet and exceed all current statutory requirements as far as structural integrity is concerned and are therefore fit for use for the intended purpose as residential dwelling structures.

Yours

Respectfully

**Consulting Engineers Associates  
2005 Ltd**

*Vaughn I. Lezama*

.....

.....  
**Vaughn I. Lezama,  
R. Eng.**



**ZINCALUME G550 STEEL USED IN PRE-ENGINEERED STRUCTURES**

# Metallic Coated Structural ZINCALUME® G550 steel G550S steel

Revision 1.0, November 2003  
This literature supersedes all previous issues.

**GENERAL DESCRIPTION**

ZINCALUME® G550 steel is a hot-dipped zinc/aluminium alloy – coated structural steel with a spangled surface and a guaranteed minimum yield strength of 550 MPa with limited ductility. Suitable for roll forming to a minimum internal diameter of 4t.

ZINCALUME® G550S steel is skippassed to improve surface quality. Skippassed material is used to supply COLORBOND® steel and is not available without the COLORBOND® paint finish.

**TYPICAL USES**

Roll-formed decking and walling.

**AUSTRALIAN STANDARDS**

AS 1365  
AS 1397-2001

**GUARANTEED PROPERTIES OF STEEL BASE**

| MECHANICAL PROPERTIES                  | GUARANTEED MINIMUM |
|----------------------------------------|--------------------|
| Yield Strength, MPa                    | 550                |
| Tensile Strength, MPa                  | 550                |
| Elongation on 80mm ( $\geq 0.60$ mm) % | 2                  |

| CHEMICAL PROPERTIES | GUARANTEED MAXIMUM % |
|---------------------|----------------------|
| Carbon (C)          | 0.2                  |
| Phosphorus (P)      | 0.04                 |
| Manganese (Mn)      | 1.2                  |
| Sulphur (S)         | 0.03                 |

Note – tensiles tested in longitudinal direction

**COATING ADHESION – 180° BEND TEST**

| COATING CLASS | GUARANTEED |
|---------------|------------|
| AZ150         | 2t         |
| AZ200         | 2t         |

**FIRE HAZARD PROPERTIES**

|                       |              |     |
|-----------------------|--------------|-----|
| IGNITABILITY INDEX    | (range 0-20) | 0   |
| SPREAD OF FLAME INDEX | (range 0-10) | 0   |
| HEAT EVOLVED INDEX    | (range 0-10) | 0   |
| SMOKE DEVELOPED INDEX | (range 0-10) | 0-1 |

**DIMENSIONAL CAPABILITIES**

| Thickness Ranges mm   | Max. Width mm |
|-----------------------|---------------|
| $\geq 0.30 < 0.32$    | 1070          |
| $\geq 0.32 < 0.33$    | 1100          |
| $\geq 0.33 < 0.35$    | 1150          |
| $\geq 0.35 < 0.40$    | 1220          |
| $\geq 0.40 < 0.60$    | 1235          |
| $\geq 0.60 \leq 1.00$ | 1220          |

Sitting and shearing available on request from BlueScope Steel sales offices.

These dimensions are a reflection of technical capability to produce. Supply conditions may be subject to dimensional restrictions and is subject to BlueScope Steel Sales and Marketing confirmation.

**NORMAL/OPTIONAL SUPPLY CONDITIONS**

|                   | Normal                      | Optional |
|-------------------|-----------------------------|----------|
| Coating Class     | AZ150                       | AZ200    |
| Surface Condition | Spangled                    | –        |
| Surface Treatment | Passivated/<br>Resin coated | –        |
| Tolerance Class   |                             |          |
| Dimensions        | A Class                     | B Class  |
| Flatness          | A Class                     | –        |
| Branding          | Branded                     | –        |

**Important Notes**

Material should be used promptly (within 6 months) to avoid the possibility of storage related corrosion.

For selection of the most appropriate metallic coated steel, please refer to technical bulletins TB1a, TB1b, CTB21 and CTB22.

Mechanical properties are guaranteed at ambient/room temperatures. Please consult technical representatives at BlueScope Steel Sales office for high/low temperature use.

ZINCALUME® and COLORBOND® are registered trade marks of BlueScope Steel Limited.

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Please ensure you have the current data sheet for this product as displayed at [www.bluescopesteel.com.au](http://www.bluescopesteel.com.au)

**BlueScope Steel Limited**

BlueScope Steel Limited ABN 16 000 011 050  
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Produced by Admprint (02) 9555 0000



# Metallic Coated Structural ZINCALUME® G550 steel G550S steel

Revision 1.0, November 2003  
This literature supersedes all previous issues

**Continued**

## TYPICAL PROPERTY RANGES (FOR NORMAL SUPPLY PRODUCT)

| Thickness<br>mm | Yield Strength & Tensile Strength<br>MPa |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 560                                      | 570 | 580 | 590 | 600 | 610 | 620 | 630 | 640 | 650 | 660 | 670 | 680 | 690 | 700 | 710 | 720 | 730 | 740 | 750 |
| 0.35            |                                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0.42            |                                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0.48            |                                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0.55            |                                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0.75            |                                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1.0             |                                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Key  yield strength  tensile strength

| Thickness<br>mm | Total Elongation on 80mm<br>(%) |   |   |   |   |   |   |   |   |   |    |    |    |
|-----------------|---------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
|                 | 0                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 0.35            |                                 |   |   |   |   |   |   |   |   |   |    |    |    |
| 0.42            |                                 |   |   |   |   |   |   |   |   |   |    |    |    |
| 0.48            |                                 |   |   |   |   |   |   |   |   |   |    |    |    |
| 0.55            |                                 |   |   |   |   |   |   |   |   |   |    |    |    |
| 0.75            |                                 |   |   |   |   |   |   |   |   |   |    |    |    |
| 1.0             |                                 |   |   |   |   |   |   |   |   |   |    |    |    |

## FABRICATING PERFORMANCE

| Method                                                             | Rating |
|--------------------------------------------------------------------|--------|
| Bending                                                            | 1      |
| Drawing                                                            | NR     |
| Pressing                                                           | NR     |
| Roll-Forming                                                       | 3      |
| Welding (design must allow for some strength reduction near welds) | 4      |
| Painting (Pretreatment)                                            | 5      |

## TYPICAL CHEMICAL COMPOSITION OF STEEL BASE

|                | %             |
|----------------|---------------|
| Carbon (C)     | 0.035 - 0.070 |
| Phosphorus (P) | 0.00 - 0.02   |
| Manganese (Mn) | 0.20 - 0.30   |
| Sulphur (S)    | 0.00 - 0.02   |
| Silicon (Si)   | 0.00 - 0.02   |
| Aluminium (Al) | 0.02 - 0.07   |
| Nitrogen (N)   | 0.000 - 0.008 |

where 1 = limited to 5 = excellent, or NR = not recommended

## IMPORTANT NOTES:

- Typical Mechanical Properties are based on typical product dispatched to customers. Note that ductility will decline through a natural aging process during storage and/or paint stoving cycle.
- The Skin-Passing of ZINCALUME® G550S steel will generally give a marginally higher yield strength and marginally reduced % elongation.

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## BlueScope Steel Limited

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## MINISTRY OF WORKS AND INFRASTRUCTURE

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MW&T (DE) 5/1/64

22<sup>nd</sup> August, 2012

System Engineer  
Steel Framed Engineered Solutions Ltd  
Don Miguel Extension Road  
El Socorro

**Attention: Mr. Randy Persad**

Dear Sir,

### **Conceptual Approval for Steel Framed Engineered Solutions Ltd Building System**

In reference to the above, please be advised that the Steel Framed Engineered Solutions Ltd Building System is approved for the construction of buildings in Trinidad up to two storeys in height.

It should be noted that final structural approval for any project will be subject to the normal approval process, and submission of final design details and structural calculations for the buildings on an individual basis will be required.

  
**Bruce Farley**  
Ag Chief Designs Engineer  
/ Permanent Secretary (Works)

xc Director of Construction

Corner Richmond and London Streets, Port of Spain, 625-1225, ext 2104

### **STEEL WALL FRAMING - Erection**

Prefabricated steel wall framing can be used with all types of floor construction. Although framing varies in detail between manufacturers, the general principles are the same for all systems. Steel wall framing is erected in the same sequence as pre-fabricated timber, ensuring squareness and vertical alignment of individual frames.



**TYPICAL STEEL FRAMED SINGLE STOREY STRUCTURE – FULL SKELETAL FRAME**



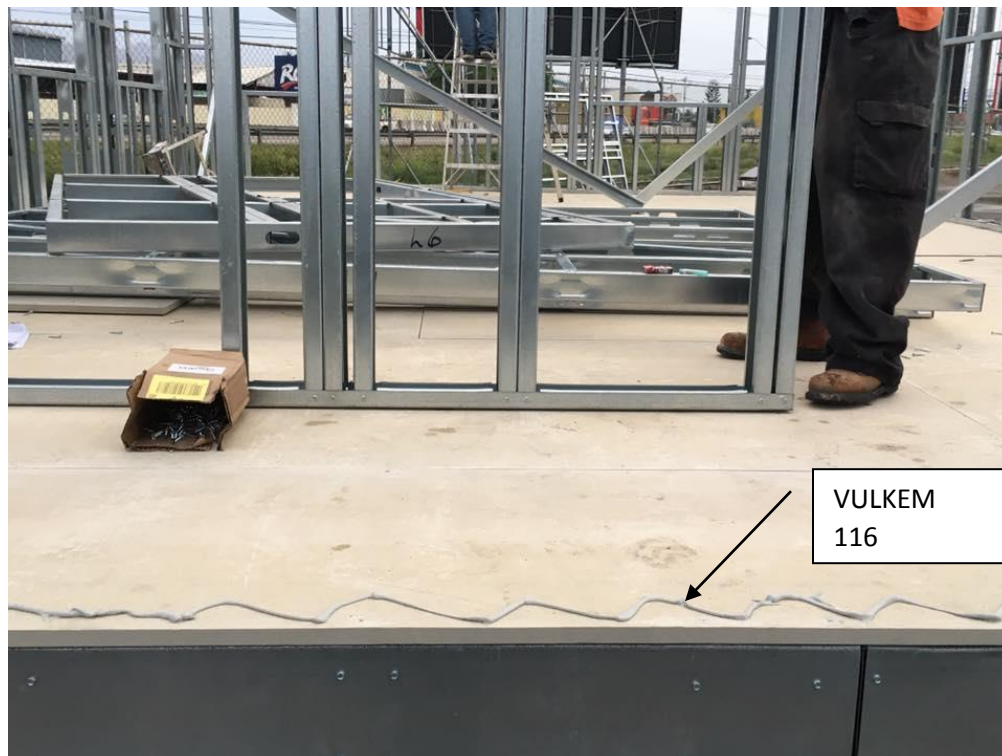
**TYPICAL COMPLETED SINGLE STOREY STRUCTURE – WITH PLYCEM EXTERNAL SIDING**



**TYPICAL STEEL FRAMED TWO STOREY STRUCTURE – FULL SKELETAL FRAME**



**TYPICAL STEEL FRAMED TWO STOREY STRUCTURE – FULL SKELETAL FRAME**  
**STAGE SHOTS OF DIY MODEL HOUSE BEING ERECTED**



**SQUARING AND PLUMBING OF FRAMES**



**PLYCEM FIBER CEMENT CLADDING BEING INSTALLED ONTO STEEL FRAMES**



**ROOF SHEETING BEING INSTALLED**



**COMPLETED DIY MODEL HOUSE AT EL SOCORRO FACILITY**



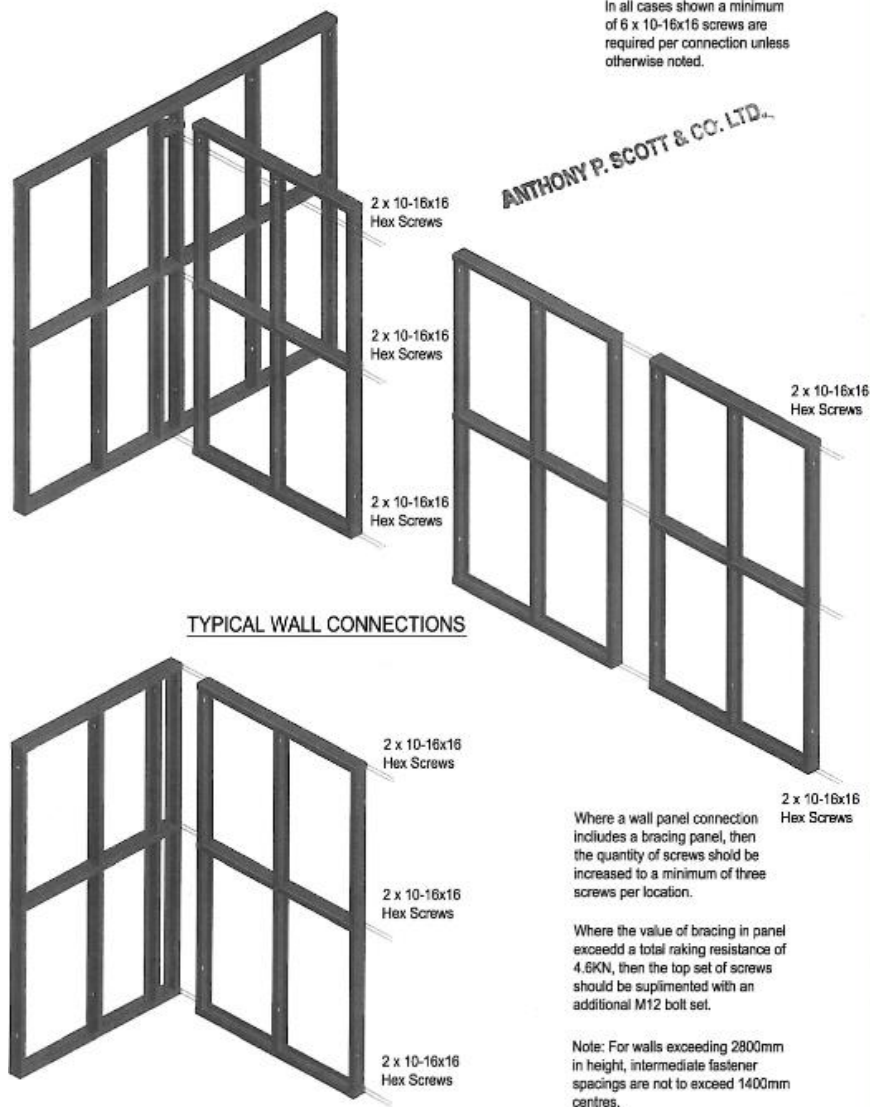
**A General Installation Guideline Is Shown Below:**

- a. Architectural Plans Received and Reviewed
- b. Plans are converted into Light Gauge Steel Framing using specialist Engineering software
- c. Production and Assembly of Frames are done and QA/ QC checked according to Design specifications
- d. Frames along with Installation Drawings and respective construction materials are shipped to clients site for installation
- e. Once Floor Slab has been prepared according the specifications, the installation process begins with members of SFESL 's trained personnel
- f. Slab is swept out and clear of all debris and dust.
- g. The wall layout is marked on the floor using straight lines or chalk line. In some cases, spray paint may be used.
- h. Squareness is checked by accurately measuring diagonals in large areas of the house first, then individual rooms.
- i. Internal wall frames are stacked inside the boundaries and external walls around the foundations, with the first frame on top.
- j. External frames are placed around the perimeter with their bottom plates adjacent to their final positions.
- k. Starting at any convenient external corner stand and plumb a wall frame panel in its exact position or as instructed by SFESL'S trained personnel
- l. Before any wall panel is installed onto concrete slab < a bead of vulkem 116 sealant is placed onto the slab to prevent any moisture from penetrating from the outside once the skirting boards are installed.
- m. Stand and plumb the adjoining frame to make a self-supporting corner.

- n. Clamp the frames together and check again that both frames are in their exact locations and standing vertical. Always refer to installation drawings for accuracy
- o. Connect the frames using manufacturers recommended method - generally nails, screws or rivets. In SFESL's case, either a 3/8" x 3 3/4" wedge anchor is used to anchor wall panels to concrete slab. These are placed at 24" OC through the entire run of the building for all wall framing.
- p. Proceed with the erection of the frames around the house, standing internal and external frames as they occur.
- q. Provide adequate temporary bracing during wall frame erection. The line of top plates in a run of walling should be checked with a string or nylon line.
- r. Once the framing is properly installed according to the installation drawings provided, a QA/QC check is done to ensure that the system is fixed and anchored.
- s. A similar procedure is adopted for the roof trusses and these are strapped and anchored using a combination of Simpson Strong Tie Hurricane brackets and other specialty connectors as recommended by company's Engineer.
- t. Structural Battens are then installed onto the Roof trusses followed by the installation of the Roof sheeting. Depending on the type of sheeting being used, the batten spacing may need to be adjusted.
- u. Since this system is fully Metal, it is important that the entire building should be grounded off by a certified electrician to prevent the risk of shock or electrocution.
- v. A vapour barrier is then installed onto the entire steel framed structure to prevent any risk of corrosion.

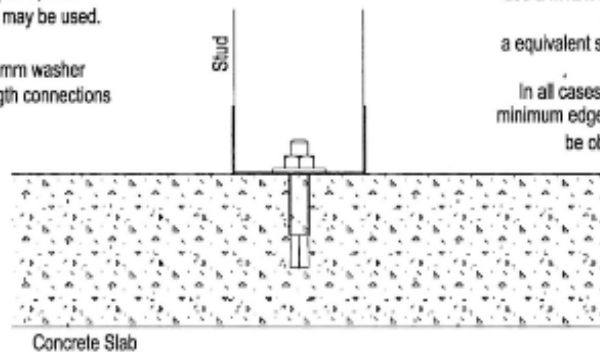
- w. Next the Plycem Fibre cement siding panels are installed onto the exterior of the building according to specifications and guidance provided by SFESL's personnel.
- x. Once this is done, the electrical and plumbing works can commence on the internal part of the building prior to closing off the exposed steel framed structure with either gypsum, Plycem or any other material of client's choice. Special note should be taken as to certain cladding substrates as this may cause mould to start developing.
- y. After this, all finishes can be done in building. This would include windows, doors, tiling, cupboards, sanitary ware, painting etc.

## SFESL'S CONNECTION DETAILS



Where the wall is non load bearing  
and it is not a brace panel, then  
a M8 x 32mm dyna bolt may be used.

Always use a 32mm x 2mm washer  
for all load bearing or strength connections



When fixing to a concrete slab,  
use a M12 x 75mm dyna bolt  
or  
a equivalent strength anchor

In all cases the anchors  
minimum edge distance should  
be observed

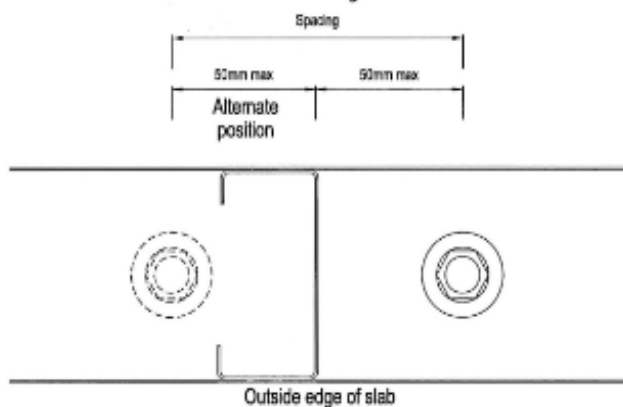
#### Upper Storey Bottom Plate Holddown

Each end of each wall panel  
Each side of each opening  
Each side of each brace panel  
Each side of girder support studs  
Else where not exceeding 1200mm

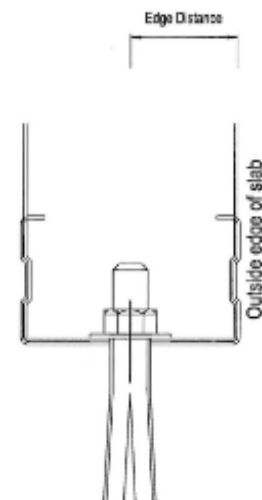
ANTHONY P. SCOTT & CO. LTD.

#### Lower Storey Bottom Plate Holddown

Each end of each wall panel  
Each side of each opening  
Each side of each brace panel  
Each side of girder support studs  
Else where not exceeding 1200mm



The above drawing is based on a 64-90mm framing system

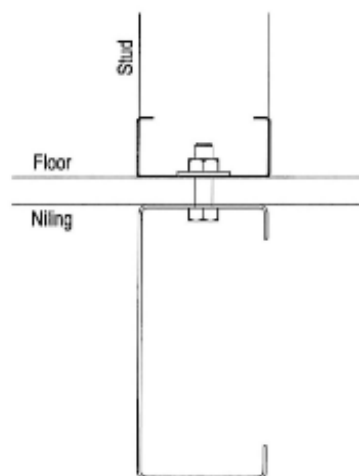


#### Lower Storey Top Plate Holddown

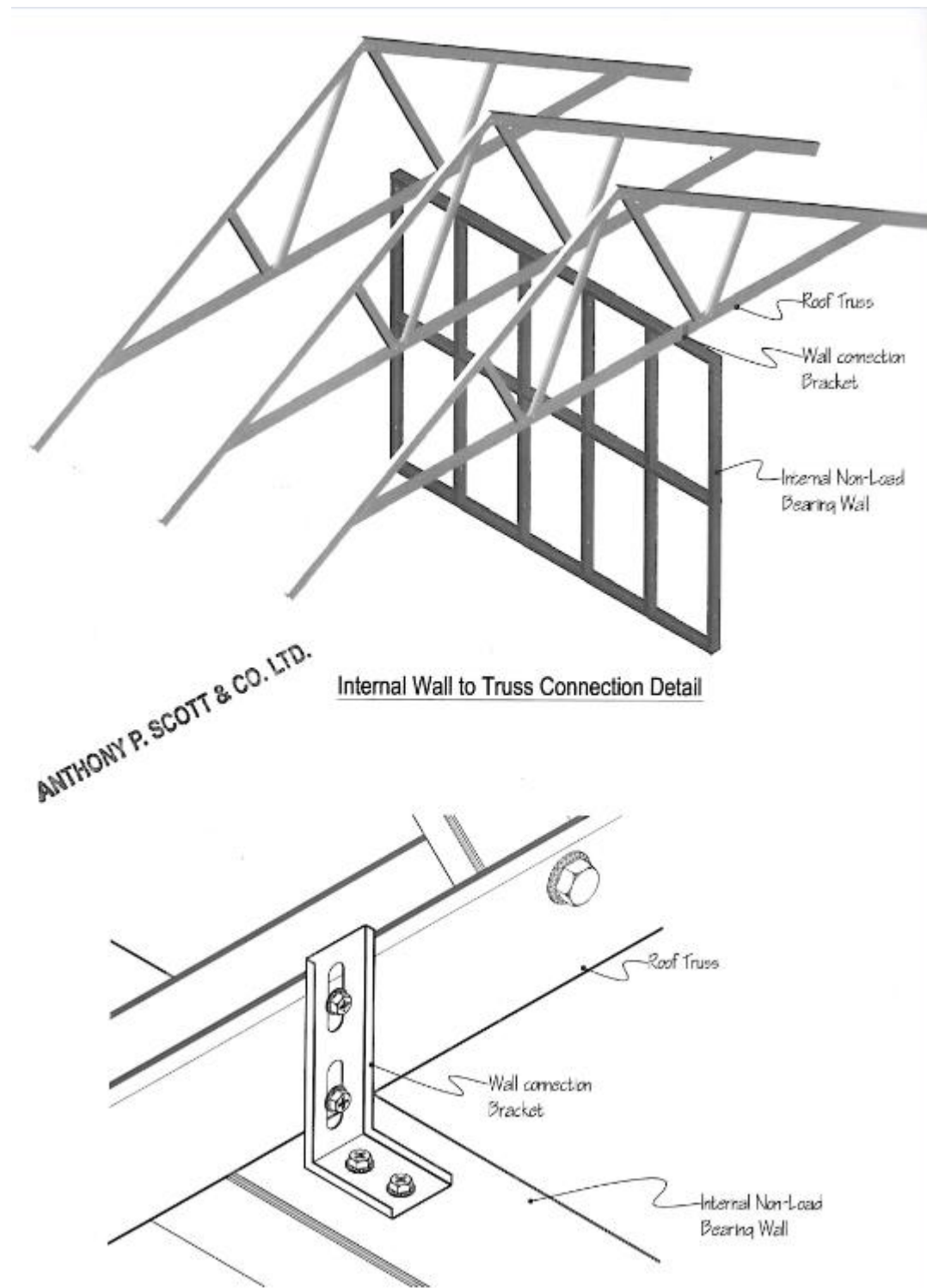
Each end of each wall panel  
Each side of each opening  
Each side of each brace panel  
Each side of girder support studs  
Else where not exceeding 1200mm

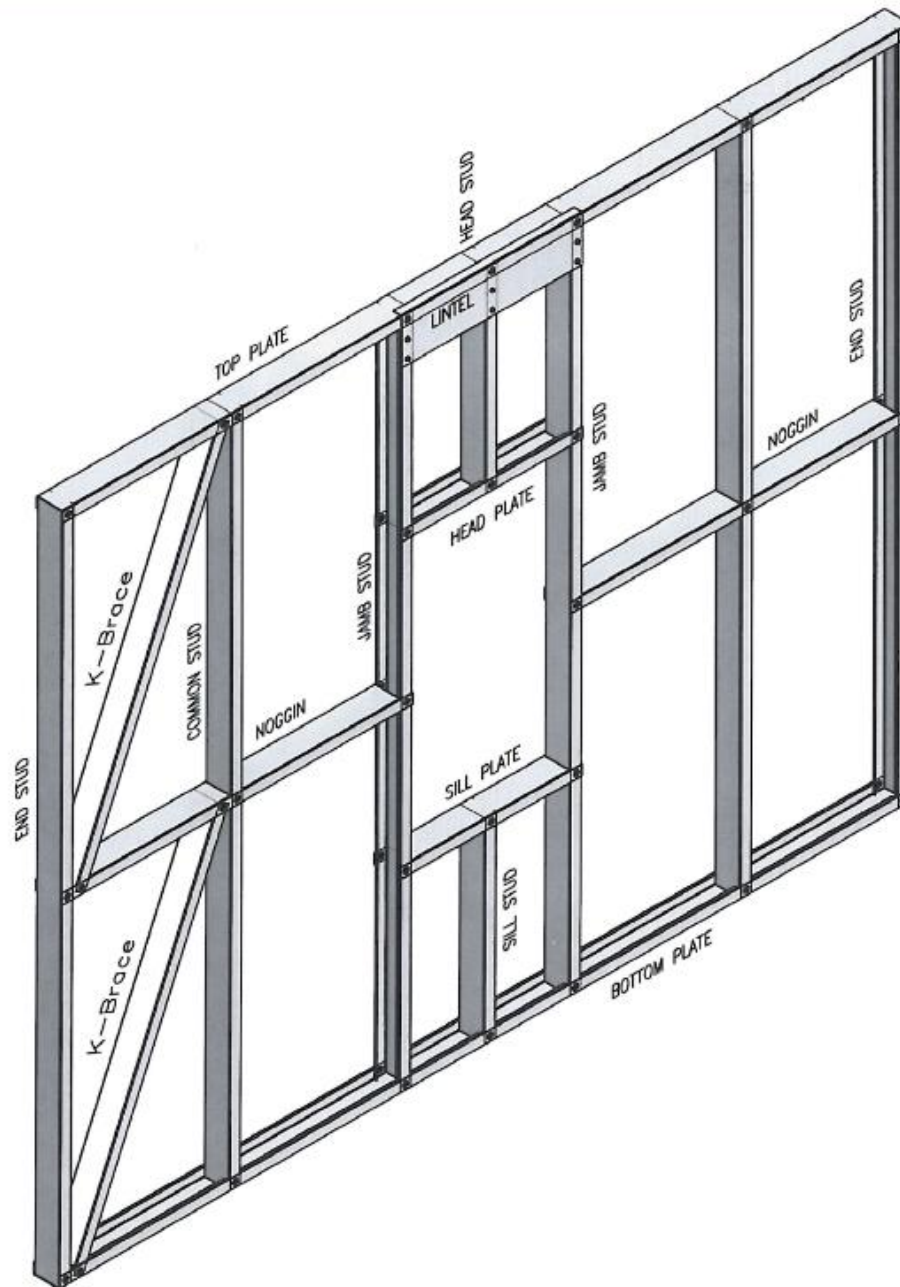
Where the wall is non load bearing  
and it is not a brace panel, then  
a M8 x 45mm bolt sets may be used.

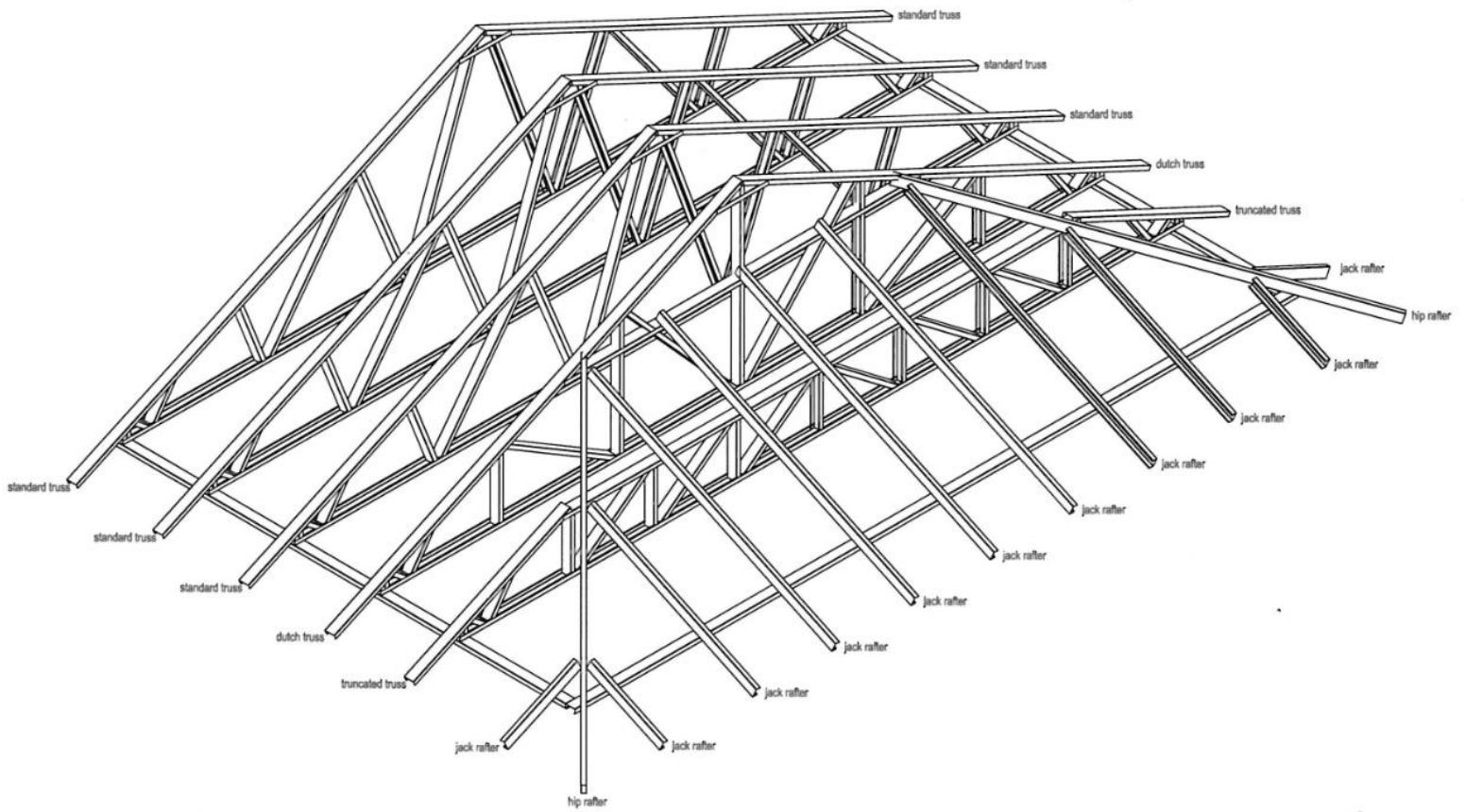
Always use a 32mm x 2mm washer  
for all load bearing or strength connections



When fixing to a Steel floor,  
use a M12 x 45mm bolt set  
or  
a equivalent strength anchor



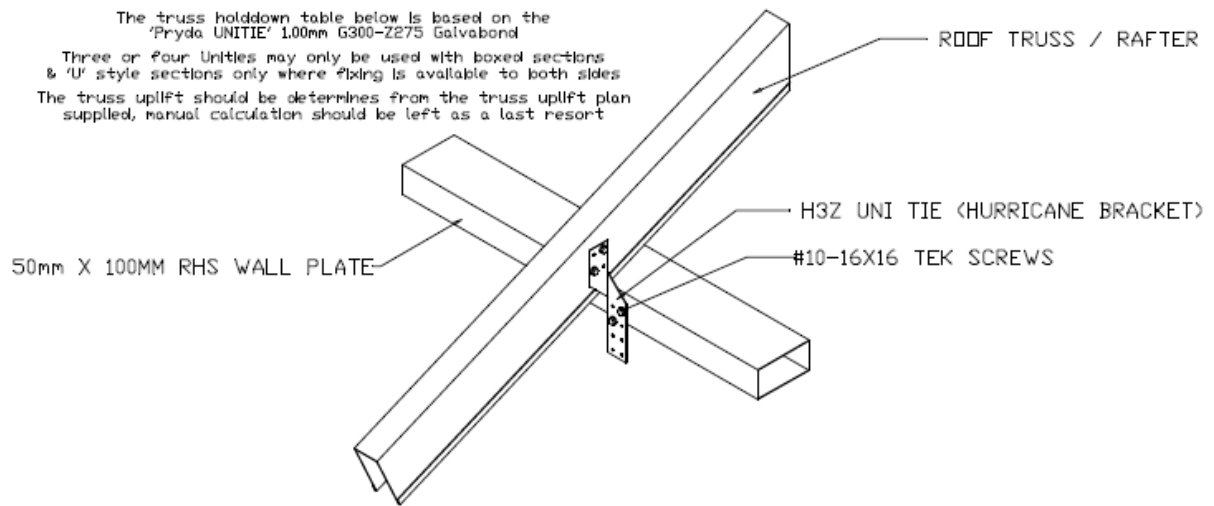




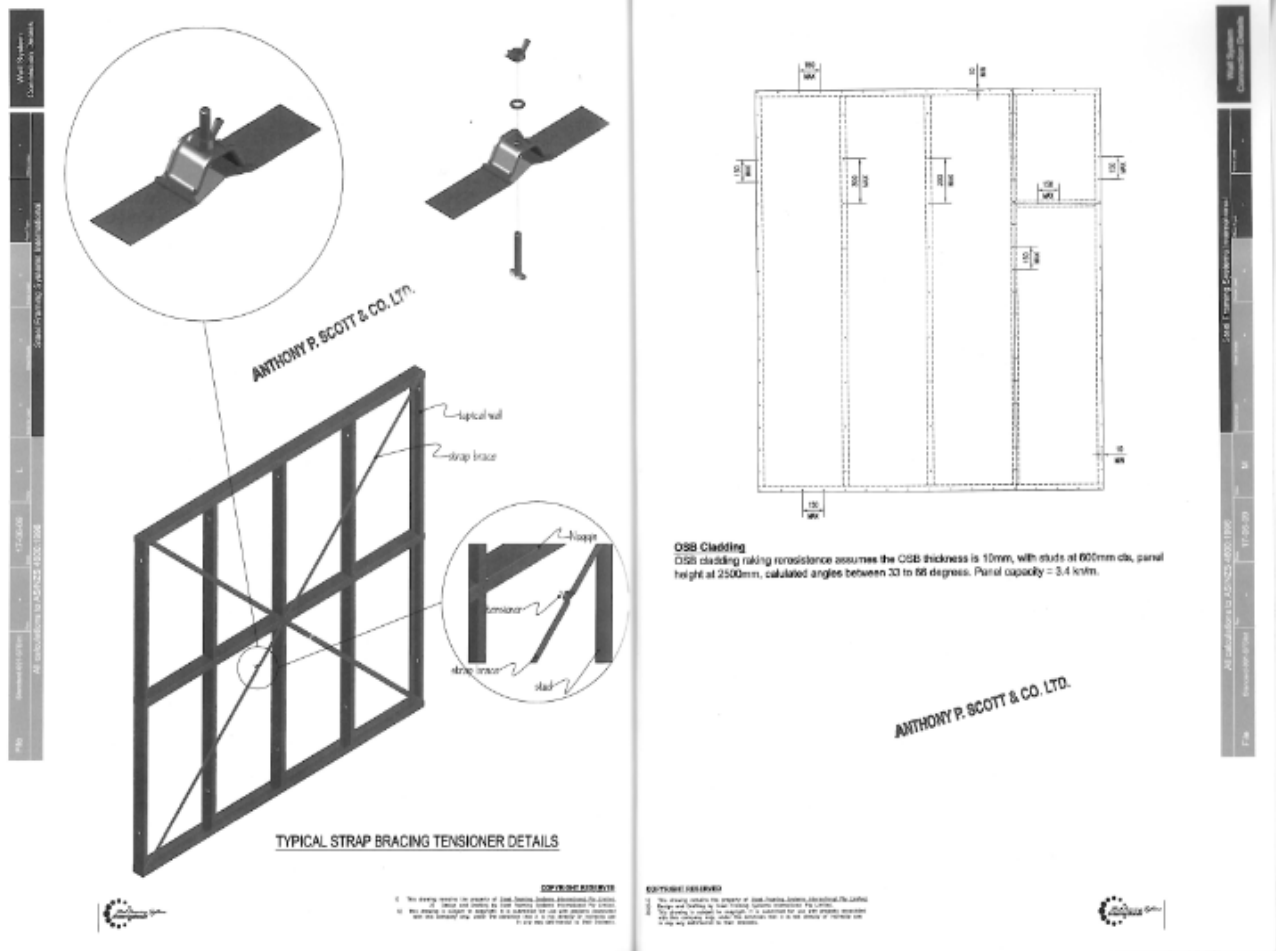
| Unitie to Truss Chord or Top Plate (kN) |            |          |             |          |               |          |              |          |
|-----------------------------------------|------------|----------|-------------|----------|---------------|----------|--------------|----------|
| Screw Quantity<br>per Face              | One Unitie |          | Two Unities |          | Three Unities |          | Four Unities |          |
|                                         | 10-16x16   | 12-14x20 | 10-16x16    | 12-14x20 | 10-16x16      | 12-14x20 | 10-16x16     | 12-14x20 |
| 2                                       | 2.35       | 2.52     | 4.70        | 5.04     | 7.06          | 7.55     | 9.41         | 10.07    |
| 3                                       | 3.53       | 3.78     | 7.06        | 7.55     | 10.58         | 11.33    | 14.11        | 15.11    |
| 4                                       | 4.70       | 5.04     | 9.41        | 10.07    | 14.11         | 15.11    | 18.82        | 20.14    |

The truss holddown table below is based on the  
'Pryda UNITIE' 1.00mm G300-Z275 Galvaland

Three or four Unities may only be used with boxed sections  
& 'U' style sections only where fixing is available to both sides  
The truss uplift should be determined from the truss uplift plan  
supplied, manual calculation should be left as a last resort



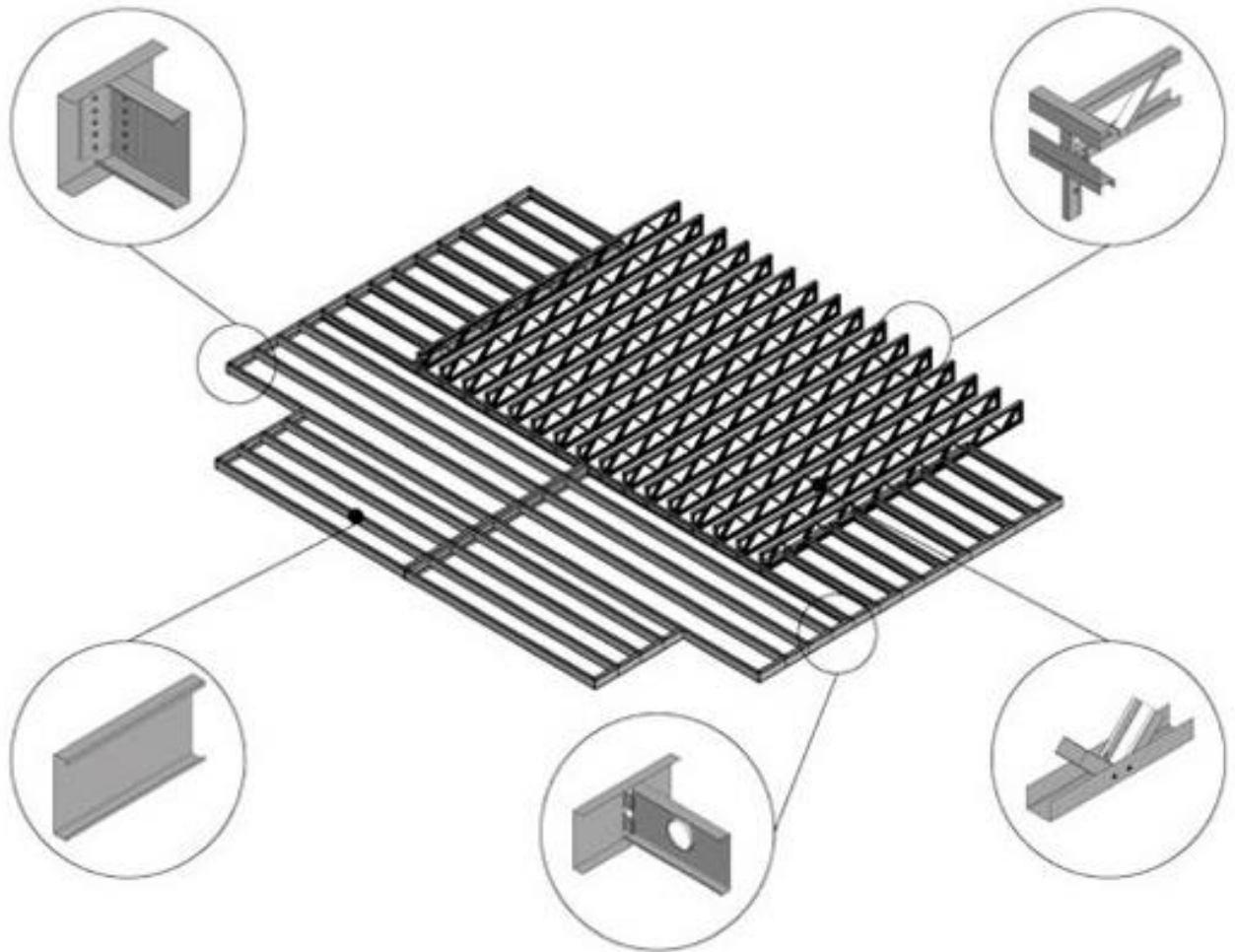
#### TRUSS TO RINGBEAM PLATE CONNECTION DETAILS



## **FLOOR SYSTEM**

Our Flooring Systems are detailed by CAD and fully supported by our Design Manuals which references critical design information in both the design and application of our Flooring System. Steel-Framed Engineered Solutions Ltd. Wall Panels can be supplied in any size between 150mm to 200mm and Designed to international Standards.

Below shows a typical example of the Floor system that can be done using our system. It can be either a solid C Section Floor Joist or a web joist. Each has its benefits which our Engineer can discuss further if needed.

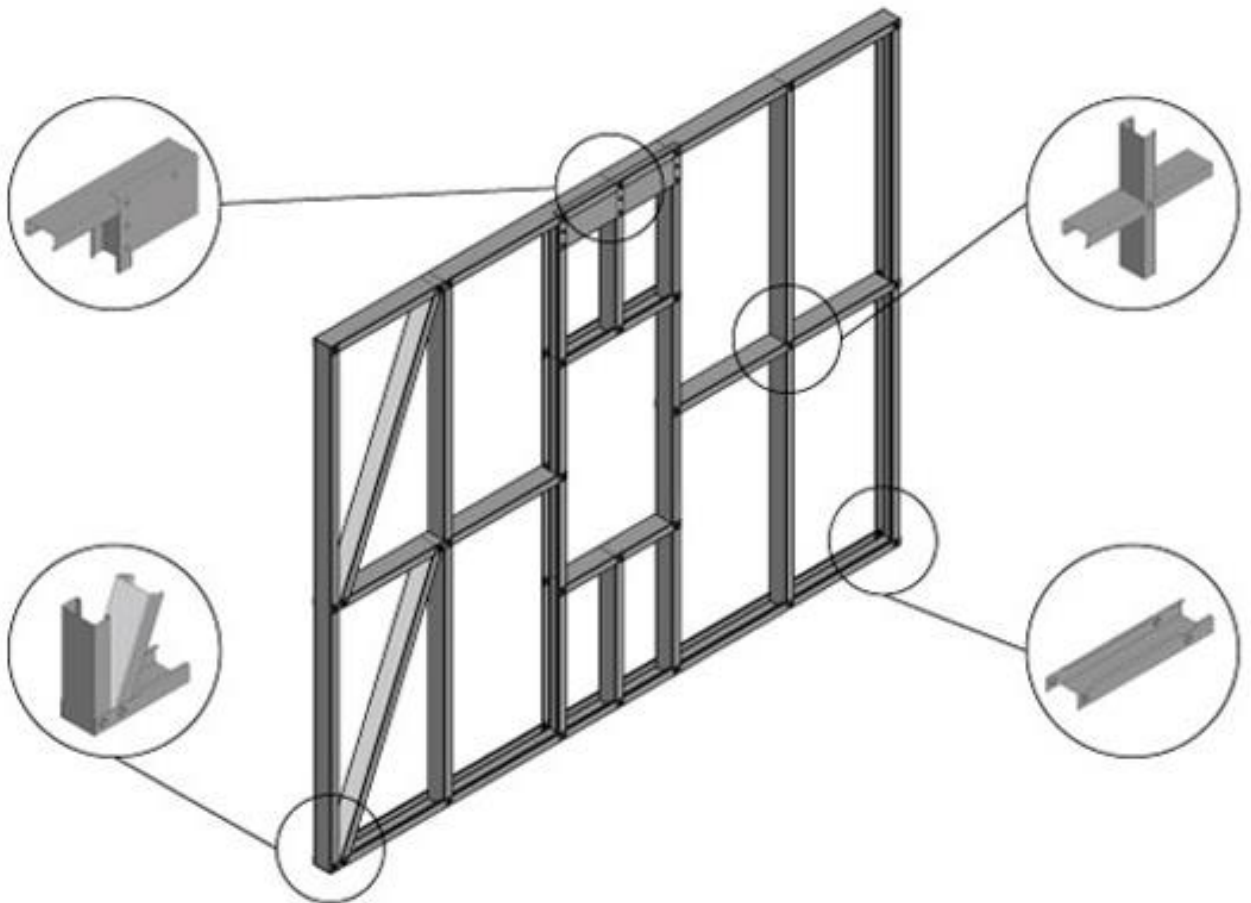


## **WALL PANELS**

Wall Panels are designed by computer analysis by our highly trained team of experts and fully supported by our Design Manual which references critical design information in both the design and application of our Wall Panels.

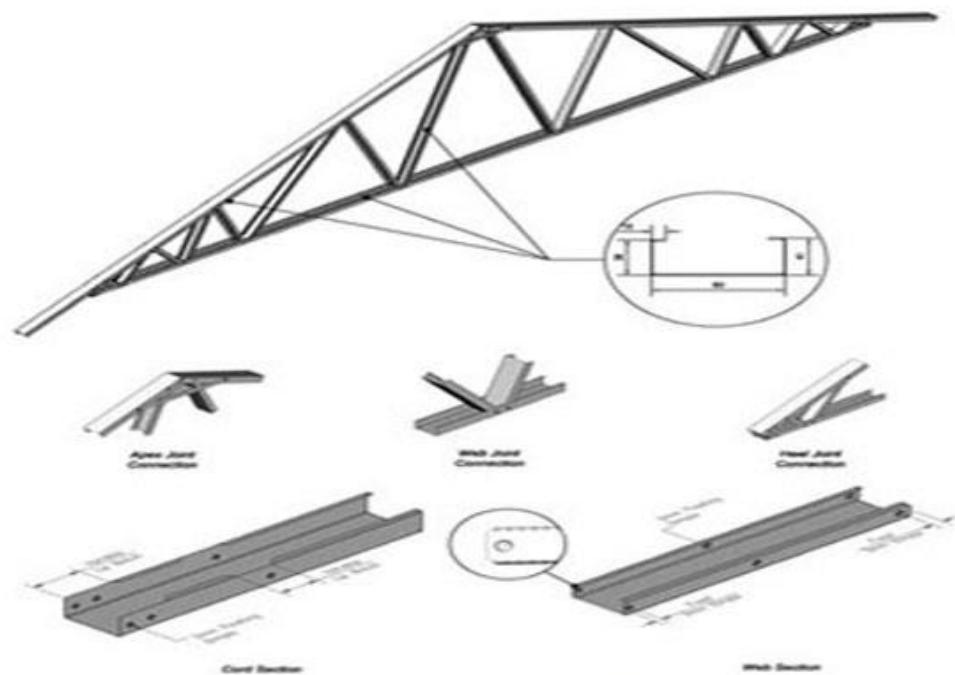
Steel-Framed Engineered Solutions Ltd. Wall Panels can be supplied in any size between 90 mm to 200mm and Designed to international Standards.

SFESL's wall panels range from 20 G structural panels to 16G structural panels or the equivalent of 1.0mm to 1.5mm G550 Structural Grade Galvalume

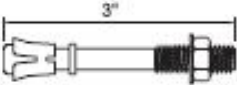
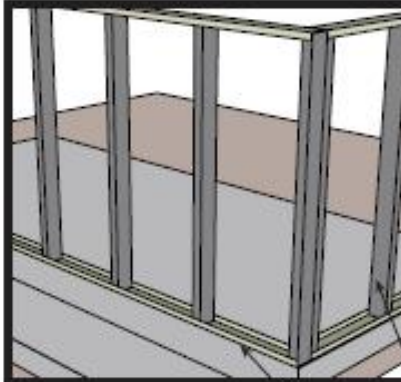
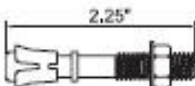
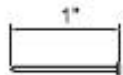
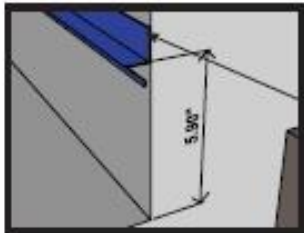
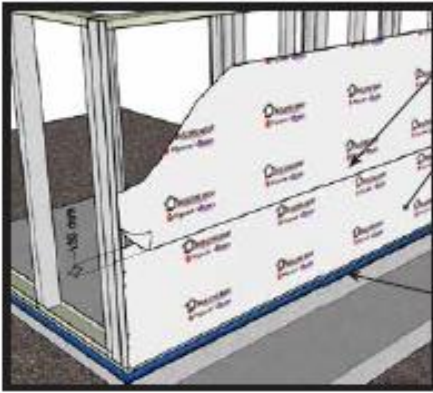


## ROOF TRUSSES

Our Roof Trusses and Rafters are designed by computer analysis using state of the art Steel Framing Engineering software by our highly qualified and trained staff and fully supported by our Design Manuals which references critical design information in both the design and application of our Roof Trusses. Steel-Framed Engineered Solutions Ltd. can supply a variety of Roof Truss styles, from basic Plate and Cee Trusses to the high performing UCord and TCord Truss Systems, designed and tested to meet international Standards.



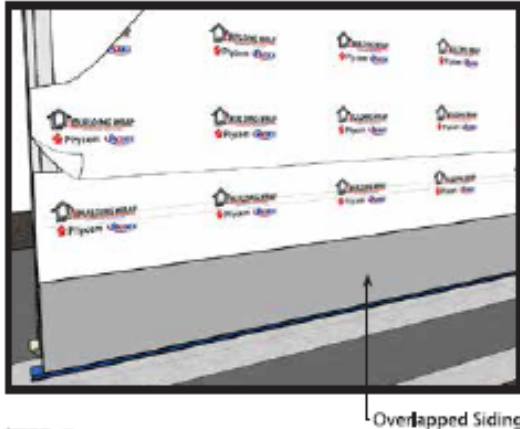
## QUICK INSTALLATION GUIDE FOR OVERLAPPED SIDING

| STRUCTURE ANCHORAGE TO FLOOR                                                                                                                                                                                                                                  |                                                                                                                     | FIRST STEPS                                                                                                                                                                                                                                                                                                                                                                                             |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  <p>3"</p>                                                                                                                                                                   | EXPANSION ANCHORAGE 3"                                                                                              | <b>STEP 1</b><br>Place the structure with PA and PE profiles on the slab or rough floor.  <p>PE Profile</p> <p>2.93"</p> <p>1.36"</p> <p>PA Profile</p> <p>1.25"</p> <p>3.93"</p>                                                                                                                                     |  |
|  <p>2.25"</p>                                                                                                                                                                | EXPANSION ANCHORAGE 2.25"                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|  <p>1"</p>                                                                                                                                                                   | COUNTERSUNK NAIL 1"                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| TOOLS                                                                                                                                                                                                                                                         |                                                                                                                     | <b>STEP 2</b><br>Install the flashing or start profile, which should be leveled.  <p>5.90"</p> <p>Metal flashing</p>                                                                                                                                                                                                 |  |
|  <p>DRILL</p>                                                                                                                                                                |  <p>CAULKING GUN</p>               | <b>STEP 3</b><br>Place the Building Wrap, from left to right, from the bottom to the top, and keeping a 4" overlap. Make sure that the moisture barrier is on the back of the flashing profiles and wrapping the structure of the window and door edges.  <p>Overlap</p> <p>Building Wrap</p> <p>Metal Flashing</p> |  |
|  <p>AIR NAILER</p>                                                                                                                                                           |  <p>ROLLER</p>                    |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|  <p>MEASURING TAPE</p>                                                                                                                                                      |  <p>RASP</p>                      |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|  <p>BRUSH</p>                                                                                                                                                              |  <p>TROWEL</p>                   |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|  <p>STRING</p>                                                                                                                                                             |  <p>WEDGE BLADE CIRCULAR SAW</p> |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|  <p>CONSTRUCTION LEVEL</p>                                                                                                                                                 |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| INSTALLATION INSTRUCTIONS ON LIGHTWEIGHT WALL                                                                                                                                                                                                                 |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <p>The metal frame should be caliber 24 (internal wall minimum) or Caliber 20 (external wall), with a maximum space of 2 feet from the middle of the profile. On external walls, a moisture barrier (Building Wrap) should be installed on the structure.</p> |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|  <p>TYPAR</p>                                                                                                                                                              |  <p>BUILDING WRAP</p>            |                                                                                                                                                                                                                                                                                                                                                                                                         |  |

## QUICK INSTALLATION GUIDE FOR OVERLAPPED SIDING

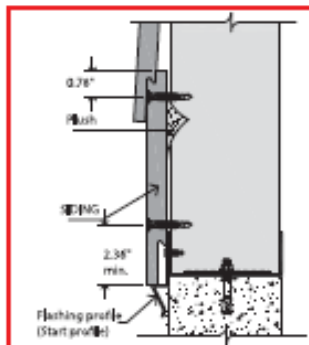
### STEP 4

Place the first piece of Overlapped Siding from left to right. Then, continue this way with the rest of the pieces on the first line.

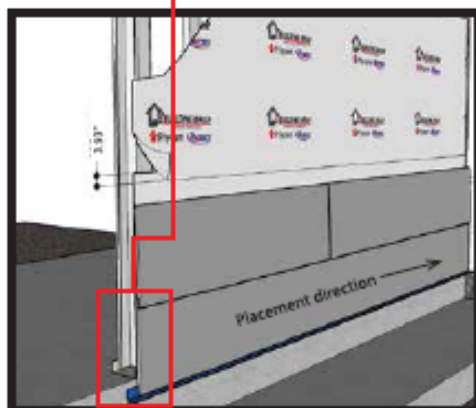


### STEP 5

Place the following pieces of siding on the second line and on the following lines. This should always be done from left to right, from alternating the joint (fastened).

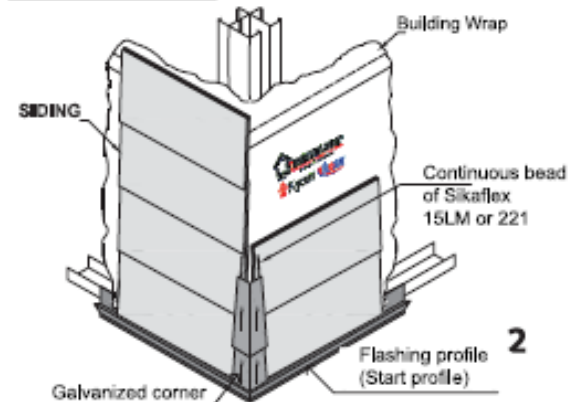
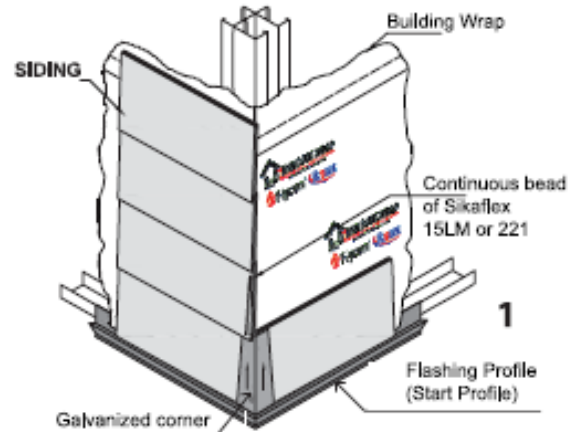


Note: Only the first line is reinforced with two screws.



### PLACEMENT OF CORNERS

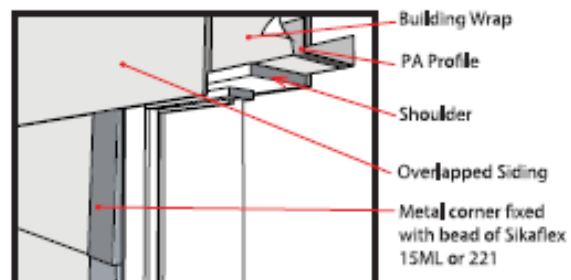
#### Gradual Placement of Corners



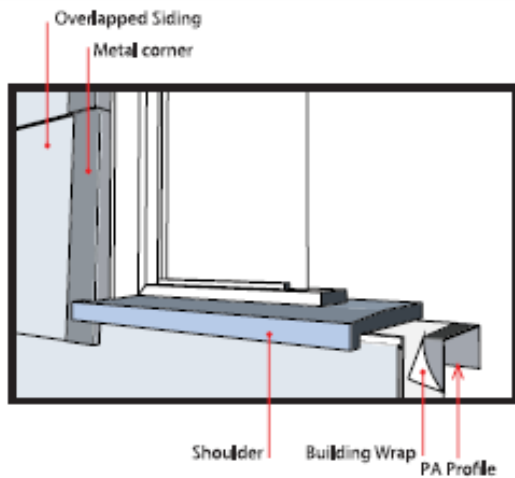
First, to place the corner, the Siding pieces should be placed on both sides of one corner. Then, place the corner from bottom to top. See details 1 and 2.

### WINDOW AND DOOR EDGE

#### A.1. Metal corner on vertical edge

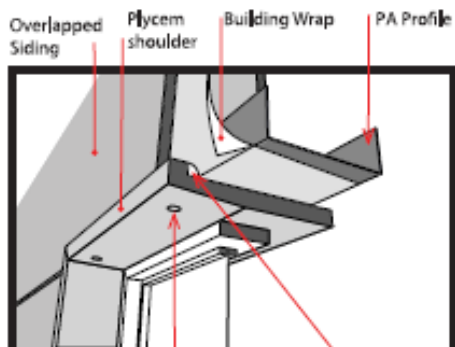


## QUICK INSTALLATION GUIDE FOR OVERLAPPED SIDING



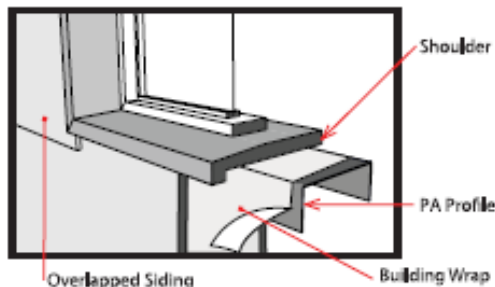
NOTE: The corners should be cut on the lower wing on the opening side, for them to be adjusted. In this way, they protect the corner from moisture and other factors. They will be fixed with Sikaflex 15 LM or 221.

### B. Shoulder piece on the opening perimeter.



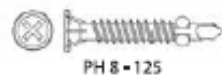
Holes near the upper edge for drainage

Bead of Sikaflex 15LM or 221

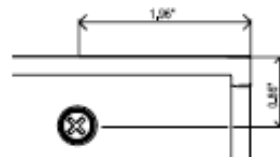
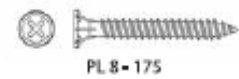


### FASTENINGS

#### SCREW FOR METAL PROFILE

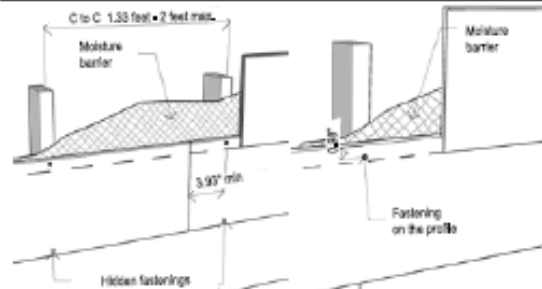


#### SCREW FOR WOOD

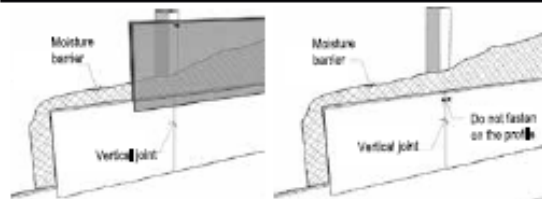


The distance of the fastening should be to the edge of the Siding piece—as shown in the picture.

### CORRECT FASTENING



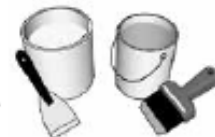
### INCORRECT FASTENING



### PAINT

To give the Siding its finishing look, use 100% quality acrylic latex paint or sheathing. Always follow the manufacturer's instruction.

To guarantee the maximum performance of the product, apply a 100% latex primer and paint for all the areas that have been cut.

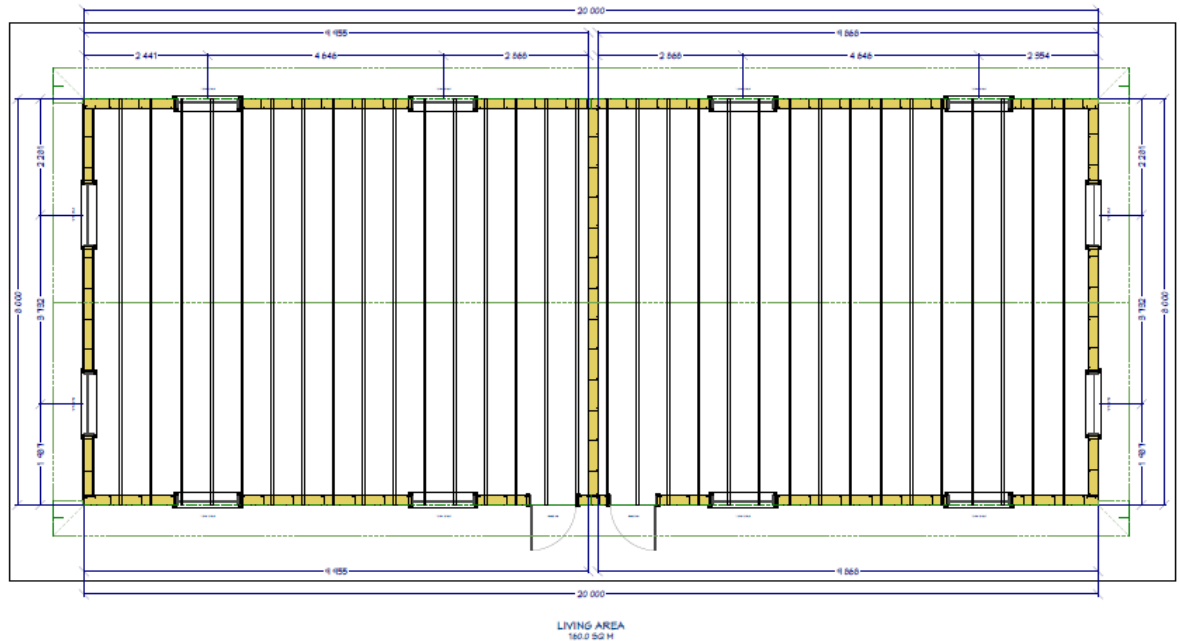




**3D RENDERING OF PROPOSED POINT FORTIN CLASSROOM**



### 3D RENDERING OF PROPOSED POINT FORTIN CLASSROOM



|                          |                                                         |              |                  |      |        |            |     |
|--------------------------|---------------------------------------------------------|--------------|------------------|------|--------|------------|-----|
| DRAWING PROVIDED BY: K-3 | PROJECT DESCRIPTION:<br>HP POINT FORTIN<br>CLASSROOM 3D | SHEET TITLE: | REV. DESCRIPTION | DATE | SCALE: | DATE:      | K-3 |
|                          |                                                         |              |                  |      |        | 20/09/2016 |     |

## PLAN OF PROPOSED STRUCTURE FOR ENGINEERING ANALYSIS



**We are proud to offer the most versatile integrated Steel Framing System in the Caribbean. State of the art roll formers, fully integrated software interfaces and experience has made us a key player in residential, commercial and light industrial solutions.**

Experience, expertise, quality, customer satisfaction and on time delivery are the watchwords upon SFESL has done business. Our Team of experts have been involved in steel framed construction for over 13 years locally and have adopted Training / Engineering / Software and Machinery from leaders in the steel framing construction industry.

SFESL can adapt designs to suit your budget. We use a fully integrated system that is capable of producing wall panels, floor systems, roof trusses and customised sections to suit your needs. All materials used in design and manufacture conform to the highest international standards and codes. All materials used in production is G550 Tensile Strength Steel and may be adapted with hot rolled sections for additional supports or Hybrid construction.

Each section is produced under strict quality control according to set tolerances ensuring conformity / perfection at all times. The cost saving to you is speed of erection, getting you into your home earlier; no warping, so finished walls and ceilings are a lot truer; stronger in construction than alternative usual methods.

Our frames are designed in-house with the aid of the latest in computer CAD systems. Quality control is such that we can precision roll, cut and factory assemble to the highest standards that are expected. Because of this, there is little or no waste.

