



**THOMAS BELL-WRIGHT  
INTERNATIONAL CONSULTANTS**

In accordance with UKAS accreditation to ISO 17065  
Certification is Hereby Granted

to

**STENI AS**

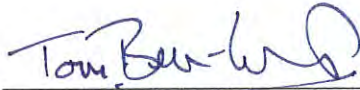
*Lågendalsbeien 2633, 3277 Steinsholt, Norway*

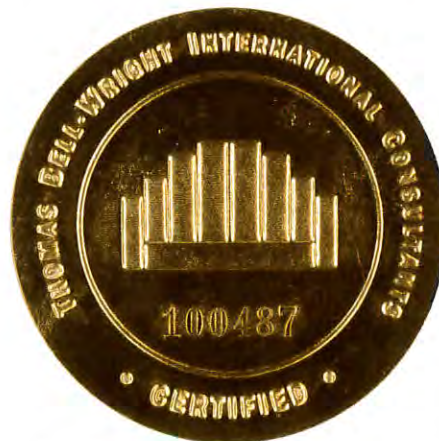
for

**“Steni Colour” 6-mm thick  
Non-load-bearing Exterior Cladding Assembly  
Test Method: NFPA 285-2012 Edition  
(System Designation: D204H10-6)**

which, subject to limitations described on the following pages and continued listing on [www.tbwcert.com](http://www.tbwcert.com), complies with Product Certification Scheme *SD03 Exterior Wall Assemblies, Cladding, Curtain Walls, Building Materials, Products, and Assemblies*

In witness whereof, this Certificate is issued this 1<sup>st</sup> day of May 2018

  
Thomas F. Bell-Wright  
Certification Director



  
Nick Purcell  
Certification Manager

**Certificate Number: TBW0300303**

Initial registration: May 01, 2018  
File Name: RC147 Steni AS (Colour)

Issued: May 01, 2018

Expiration: April 30, 2021  
Save Date: 01/05/18 9:09 AM

This certificate and schedules are held in force by regular Factory Inspections by Thomas Bell-Wright International Consultants (TBWIC). Refer to [www.tbwcert.com](http://www.tbwcert.com) or contact TBWIC Fire Compliance Division to validate the current status of Certification. This certificate remains the property of THOMAS BELL-WRIGHT INTERNATIONAL CONSULTANTS, PO BOX 26385, DUBAI, UAE.

Tel: +971 4 333 2692, Email: [certification@bell-wright.com](mailto:certification@bell-wright.com). Web: [www.bell-wright.com](http://www.bell-wright.com) F 19 Scheme Certificate Issue 5. Dec 2016

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# “Steni Colour” 6-mm thick Non-load-bearing Exterior Cladding Assembly (System Designation: D204H10-6)

- A. Certification is given for “Steni Colour” 6 mm thick fibre-glass reinforced cured polymer composite panel Non-load-bearing exterior cladding system which has successfully met the requirements for fire propagation characteristics when evaluated against NFPA 285-2012 Edition, subject to the limitations below. Readers of this document should be familiar with Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components and the requirements of ISO/IEC 17065:2012. The Certification will be listed on [www.tbwcert.com](http://www.tbwcert.com), while it remains current. This Certification is not valid if this product is not so listed.
- B. The product is approved on the basis of TBWIC Product Certification Scheme SD03 for Exterior Wall Assemblies, Cladding, Curtain Walls, Building Materials, Products and Assemblies which includes pre-test sampling, evidence of performance (under ref: TBWIC Test Report No. RE061), Technical Verification and Proof of Performance, compliance to Factory Production Control requirements and surveillance & Re-certification Inspection/ Audits.
- C. Limitations:
- C.1.1. This Certification covers the fire propagation characteristics of a non-load-bearing exterior wall cladding system when evaluated against the ANSI/NFPA 285-2012 Edition. The wall cladding assembly has been evaluated for fire propagation characteristics as specified in the following\*:
- (a) The ability of the wall assembly to resist flame propagation over the exterior face of the wall assembly\*;
  - (b) The ability of the wall assembly to resist vertical flame propagation within the combustible components from one story to the next\*;
  - (c) The ability of the wall assembly to resist vertical flame propagation over the interior surface of the wall assembly from one story to the next\*; and,
  - (d) The ability of the wall assembly to resist lateral flame propagation from the compartment of fire origin to adjacent compartments or spaces\*.
- C.1.2. This Certification covers the performance of the non-load-bearing exterior wall cladding system when exposed to fire from an interior room that reaches flashover, breaks exterior windows and exposes the building façade. It is not intended to address fire exposures that originate from the building's exterior\*.
- C.1.3. This Certification covers the non-load-bearing exterior wall cladding system in its entirety. Individual components that comprise the wall cladding system (on their own) are not covered under this certification.
- C.1.4. The actual field installations of the non-load-bearing exterior wall cladding system covered under this certification shall not limit the use of the methods and materials employed to seal the gap between the edge of the floor slab and the interior surface of the test specimen during the test, provided approved sealing methods and materials are used in the field\*.

*\*NFPA 285 2012 Edition*

Certificate number: TBW0300303

Page 2 of 7

  
\_\_\_\_\_  
Certification Manager  
Nick Purcell

Seal number: 100487

Issued: 01 May 2018  
Valid to: 30 Apr. 2021

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C.1.5. The design of the non-load-bearing exterior wall cladding assembly covered under this certification including the exact specification of the components, a method of fixing and condition of such component which was subjected to the fire test shall be duplicated when installed on the site. The design and components of the non-load-bearing exterior wall cladding assembly are not intended to be substituted, eliminated or interchanged unless recognized and approved by this certification.

C.1.6. The test (and Certification) do not address the following:

- (a) Air and Water Permeability
- (b) Measurement of heat transmission
- (c) Classification or definition of material as noncombustible
- (d) Any Resistance to Fire rating
- (e) Toxicity level of smoke developed during combustion

#### D. System Configuration

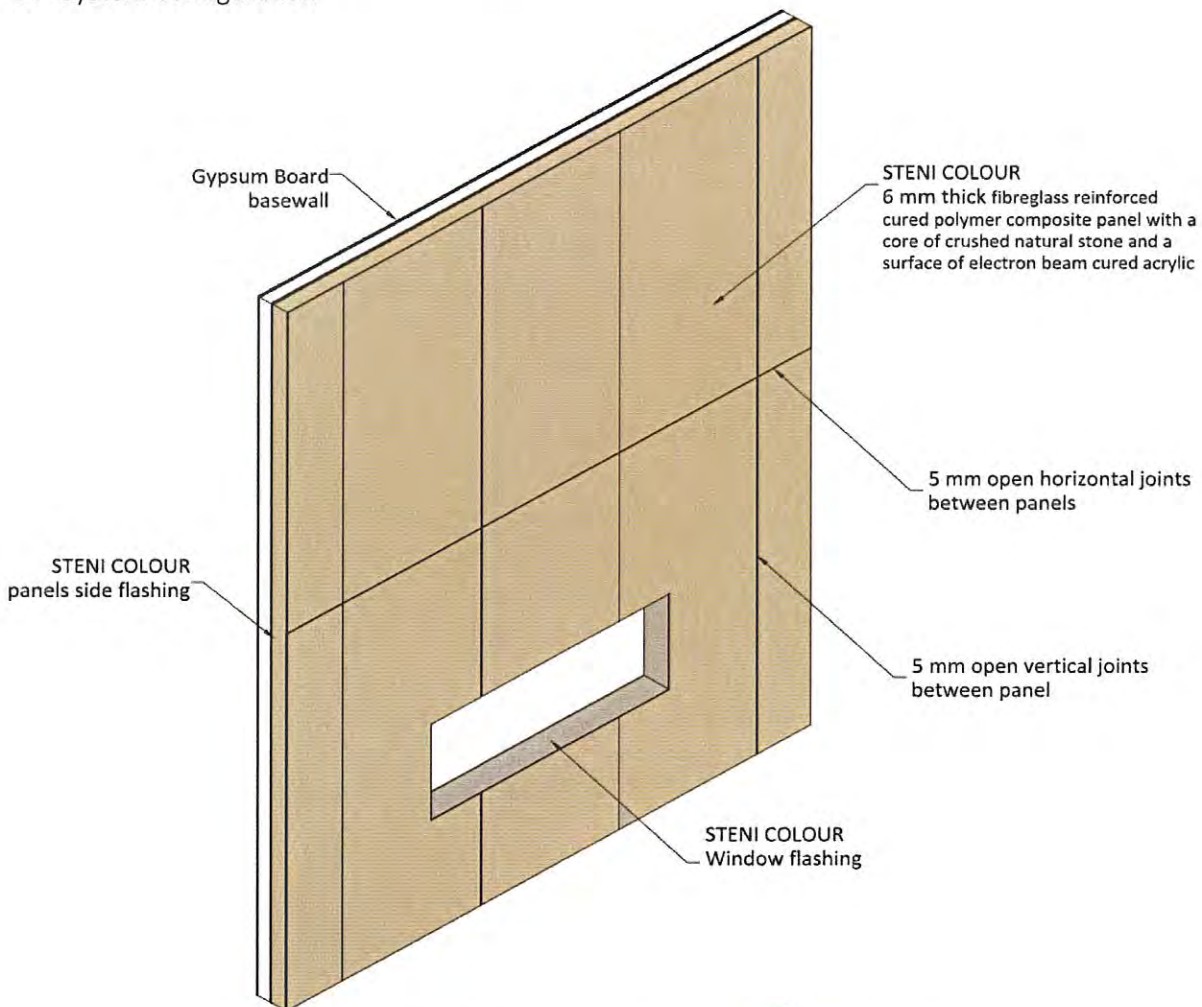


Figure 1. "Steni Colour" 6-mm thick panel exterior cladding assembly elevation

Certificate number: TBW0300303

Page 3 of 7

  
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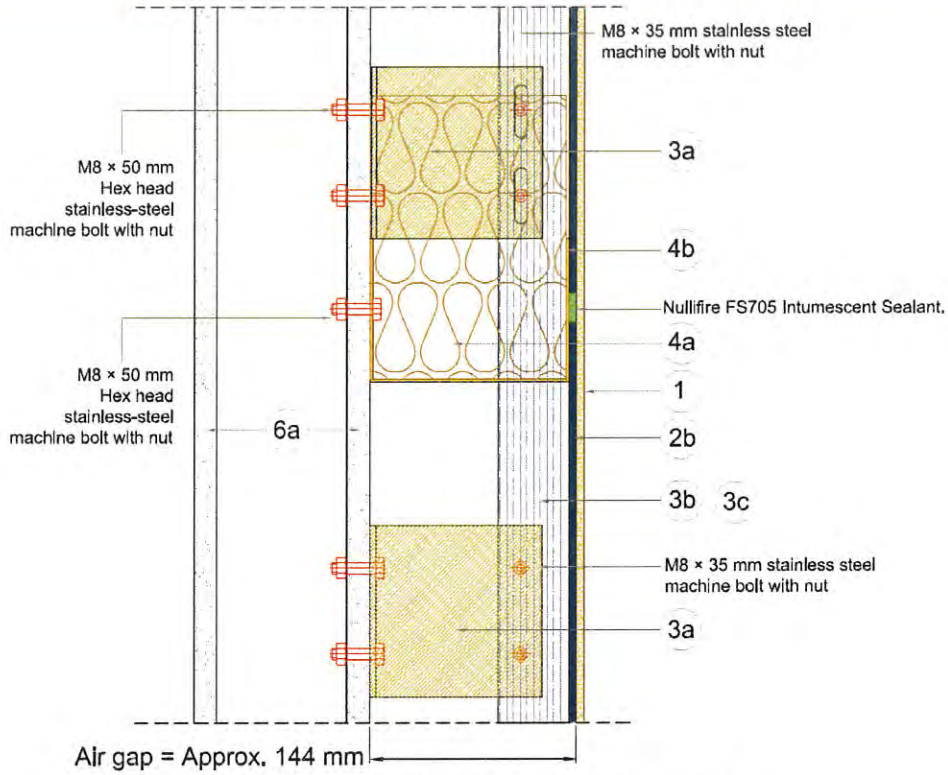


Figure 2. Exterior cladding assembly typical vertical section details

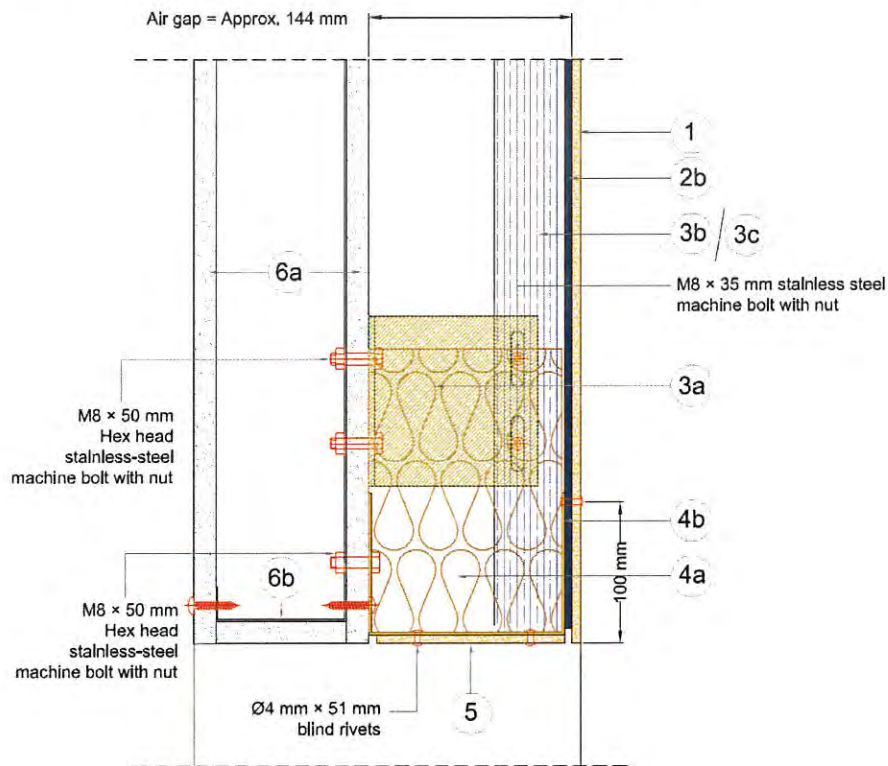


Figure 3. Exterior cladding assembly typical vertical window section details

Certificate number: TBW0300303

Page 4 of 7

  
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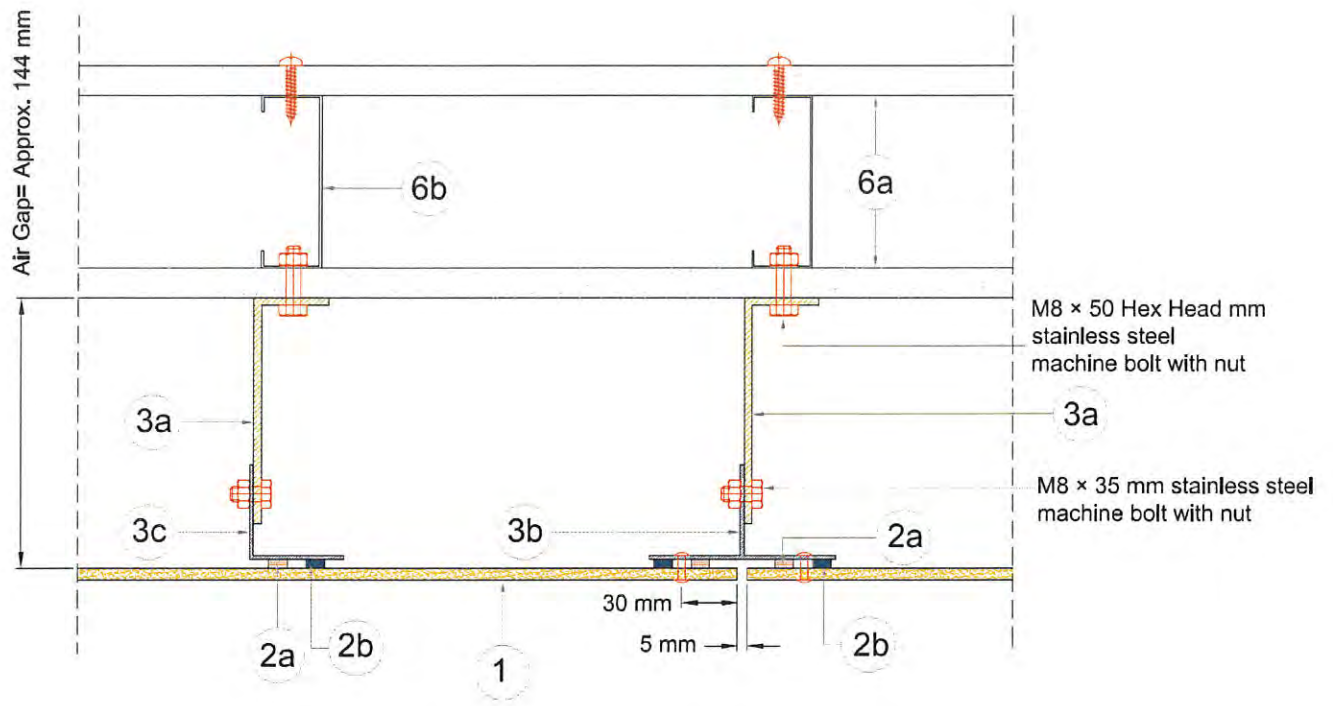


Figure 4. Non-load-bearing exterior wall cladding assembly typical horizontal section details

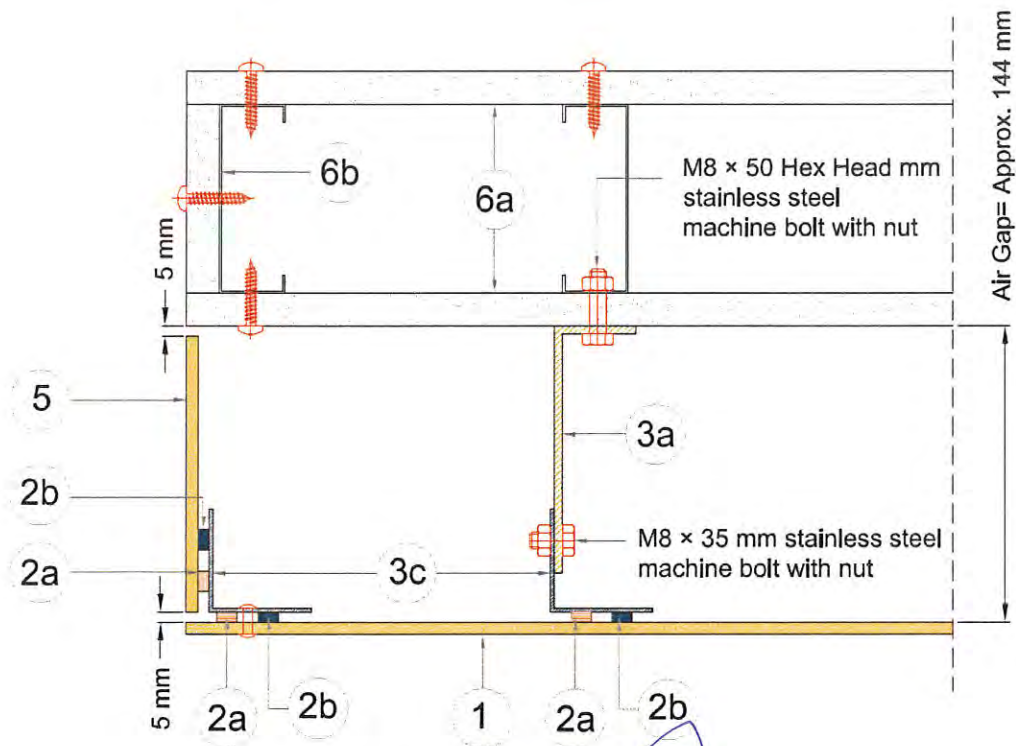


Figure 5. Non-load-bearing exterior wall cladding assembly typical horizontal window section details

Certificate number: TBW0300303

Page 5 of 7

  
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## 1. Exterior Cladding Material

“Steni Colour” 6 mm thick fibreglass reinforced cured polymer composite panel with a core of crushed natural stone and a surface of electron beam cured acrylic. The panels were fixed to “T” and “L” profile runners using adhesive sealant, adhesive tape and Ø4 mm × 14 mm aluminium blind rivets. The rivets were fixed at the top and bottom corners of the panel (100 mm from the horizontal edge and 30 mm from the vertical edge) and at mid-height of the panel.

A 5 mm wide gap was maintained on the vertical joint and horizontal joints between the panels. The gaps were kept open.

**Table 1. “Steni Colour” Fibreglass Reinforced cured polymer composite panel as per tested configuration**

Product Reference	Steni Colour
Manufacturer	STENI AS
Density	1960 kg/m <sup>3</sup> ±3 %
Thickness	6.0 ± 0.6 mm
Maximum Length	2995 mm
Maximum Width	1995 mm
Minimum Length	842 mm
Minimum Width	475 mm

## 2. Panel Fixing Components

### 2a. Adhesive Tape

Material: Double sided adhesive tape

Reference: Dynamic Tape

Manufacturer: Dynamic Bonding Systems

Dimensions: 20 × 2 mm (width × thickness)

### 2b. Adhesive Sealant

Material: MS-hybrid polymer-based 1-component adhesive/sealant

Reference: Dynamic Bond

Manufacturer: Dynamic Bonding Systems

Application: 2 mm × 10 mm (thickness × width)

### 2c. Rivets

Material: Aluminium/ Stainless

Specification:

Head: AlMg 3.5

Mandrel: AISi 304

Dimension: Ø4 mm × 51 mm

Certificate number: TBW0300303

Page 6 of 7

  
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### 3. Substructure Components

#### 3a. Wall Brackets

Aluminium angle brackets, 120 × 40 × 4 mm thick, 120 mm long (Aluminium Alloy 6063-T6) fixed to the base wall within 122 mm to 624 mm horizontally and 160 mm to 1014 mm vertically. The brackets were fixed to the base wall using 2 nos. of M8 × 50 mm Hex Head stainless steel machine bolt with nut.

#### 3b. Vertical Runners – “T” Profile

Aluminium Alloy 6063-T6, 100 × 50 × 2.0 mm thick “T” profile fixed to the wall brackets using M8 × 35 mm Hex Head stainless steel machine bolt with nut. The “T” profile runners were fixed according to the width of the panels and are primarily used on the vertical joints between panels.

#### 3c. Vertical Runners – “L” Profile

Aluminium Alloy 6063-T6, 50 × 50 × 2.0 mm thick “L” profile fixed to the wall brackets using M8 × 35 mm Hex Head stainless steel machine bolt with nut. The “L” profile runners were fixed in the middle of two “T” profiles and on the wall terminations.

### 4. Cavity Fire Barrier-Horizontal Only

#### 4a. Mineral Wool

Three layers of 50 mm thick mineral wool fitted into a galvanized steel U-channel. The cavity fire barriers were fixed adjacent to the slab termination of each floor and on the perimeter of the window opening. The total dimension of the cavity barrier was 150 × 200 mm (depth × height)

Manufacturer: Fujairah Rockwool Factory

Minimum Density: 60 kg/m<sup>3</sup>

Reference: S2XX- Mineral wool slabs with FSK facing

#### 4b. U-Channel

Material: Galvanized Steel (ASTM A653/A653M- Commercial Grade)

Dimension: 100 × 150 × 100 × 1 mm (flange × web × flange × thickness)

Fixing Method: Fixed to the base wall using M8 × 50 mm hexagonal head stainless steel bolts and nuts.

### 5. Window Flashing

134 mm wide Steni Colour panels were fixed around the window perimeter using rivets at a nominal spacing of 600 mm.

### 6. Base Wall

#### 6a. Interior & Exterior Gypsum Board

1220 × 2400 × 15.9 mm (width × height × thickness) “Type X” gypsum board fixed on 1.2 mm thick galvanized steel studs and tracks. The boards are fixed to the studs and tracks using Ø3.5 mm × 35 mm zinc coated drywall screws at a nominal spacing of 300 mm. The board joints were covered with gypsum board jointing tape and jointing compound. Screw heads were covered with jointing compound.

#### 6b. Steel Studs and Tracks


1.2 mm thick galvanized steel (ASTM A653/A653M- Commercial Grade) studs (93 × 32 × 34 × 9, web × flange × flange × return) and tracks (95 × 32 × 32, web × flange × flange) welded directly to the base frame.

### E. Manufacturer Details

Lågendalsbeien 2633,  
3277 Steinsholt, Norway

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Page 7 of 7

  
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