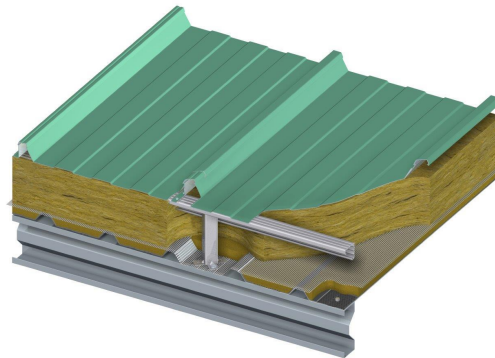


SPECIFICATION: Euroclad Elite PLUS 3 A2 – Roof Profile over purlins.**Benefits:**

- Robust roofing solution BBA Certificate 04/4151
- 25 year system guarantee
- Suitable for finished roof pitches $\geq 1^\circ$
- No end laps, SF500 sheets rolled in continuous lengths, eliminating risk of leakage
- No through fixings, eliminating the risk of leakage through fixings.
- SF500 can reduce the crown height required for the roof
- Suitable for curved roofs, self curve to minimum 50m radius
- Positively fixed with no separate clip – for faster installation
- Non-Fragility: Class C liner panel, Class B SF500 sheet and Class B roof assembly
- Suitable for all humidity class buildings
- Class A Sound Absorption
- Non-Combustible insulation
- Compliance with requirements of Part B Building Regulations for compartmentation
- Recyclable roof system
- BRE Green Guide rated A+ summary rating
- Usually rollformed on site - keeping transport costs and handling to a minimum
- Best suited for education and leisure applications where noise reverberation is undesirable

Features:

- EC 54-500 SF500 Secret Fix profile sheet
- Colorcoat® with Confidex® Guarantee
- CE marked Quattro spacer system
- Insulation to achieve required U value
- EC 32-200-1000 Liner MW5_2L 0.7mm steel perforated liner
- Shaped Acoustic batts
- VCL laid between acoustic and thermal insulation layers
- Steel Purlins (by others) gauge 1.5mm to 3.0mm
- Weight per square metre see System drawing file
- Overall system depth from purlin to crest of outer profile see System drawing file



H31 METAL PROFILED/ FLAT SHEET CLADDING/ COVERING

To be read with Preliminaries/ General conditions.

TYPES OF CLADDING/ COVERING SYSTEM**120 METAL ROOF SYSTEM – EUROCLAD ELITE PLUS 3.15A2**

Support structure: Cold rolled purlins by others

Bearing width (minimum): 60mm

Pitch: Minimum 1° finished pitch

(2.5° designed pitch recommended unless justified by detailed structural analysis to account for settlements/deflection).

External sheets:

Product reference: EC 54-500 SF500 Secret Fix

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff, CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Thickness (nominal): 0.7mm.

Material: *Colorcoat HPS200® Ultra* by Tata Steel high performance pre-finished steel, with the Confidex® Guarantee, including cut edge corrosion protection for the full Guarantee period for the weatherside of industrial and commercial buildings with no inspection or maintenance to maintain its validity. Substrate to be Galvalloy® metallic coating based on a zinc (95%): aluminium (5%) eutectic alloy manufactured to BS EN 10346: 2009 S220GD

Finish side 1 (outer): *Colorcoat HPS200® Ultra 200µm nominal coating thickness with the Scintilla® emboss with a nominal depth of 40µm*

Colour: To be chosen from the product range following consultation. Note that where colour is to match roof finish, Euroclad should be notified at time of ordering.

Registration of the project by the Contractor via Euroclad is required for the Confidex® guarantee

Finish side 2 (inner): High Performance Polyester Standard Backing Coat

Colour: Light Grey

CE Marking: All Euroclad profiles are CE marked in accordance with BS EN 14782:2006; Self supporting metal sheet for roofing, external cladding and internal lining.

Primary sheet fasteners (Supplied by Euroclad): Stainless steel Self driller Hex head 5.5mm dia x min. 25mm long with no moulded colour cap or washer

Fastener profile location: sheet underlap

At all supports: 2 fixings (endlaps n/a).

End laps size (minimum): n/a

At eaves only – additional anchor fixings 2 per sheet either side of upstand outside the building envelope to either drip angle or flashing: Stainless steel bulbtite rivet 5.2mm dia x 17.5mm (3W)

Sealing laps:

End laps: n/a

Side laps: n/a except at verge details where continuous bead 3mm Class A laid in groove provided on sheet underlap and 2 x19mm Class A mastic is required.

Stitching side laps: End laps: n/a

Side laps: n/a - unless sheet is self curved. Under these circumstances one number stainless steel stitcher moulded head or low profile coloured head and washer fixing in each side lap outside the building envelope (i.e. as near to the sheet end as practical).

Stainless steel Stitcher Moulded head washer typically 6.3mm dia x 25mm long.

Accessories:

Verge Section

Ridge Support Section
 Raked Ridge Support Section (if required)
 SF500 Clamps (if required)
 Flashings, Fabrications and Trims by Euroclad Architectural
 Consult Euroclad for other standard accessories available for specific details

Spacers

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff, CF3 2ER.
 Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Quattro spacer system with 300mm brackets fitted typically at 1.2M centres.

Fasteners (Supplied by Euroclad): Fixing to Cold Rolled purlin from 1.5 - 3.0mm thick:
 Spacer to purlin: Standard method: Stainless steel self driller Hex head min 5.5mm dia x min 25mm long and washer 2 x per bracket diagonally opposite (4 x per bracket for bracket heights >= 260mm). NB: for purlins >1.6mm consult with Elite Sales for details.

Rail to bracket fix: Stainless steel self driller Hex head 5.5mm dia x min. 25mm long and washer. 1 number through rail into bracket at beginning and end of each run of Rail.

- **Vapour control layer:** As clause 261
- **Lining sheets:** As clause 241
- **Acoustic Insulation:** As clause 254
- **Insulation:** As Clause 271
- **Breather Membrane:** As clause 280
- **Profile Fillers:** As clause 300
- **Flashings:** As clauses 480 & 482
- **Rooflights:** As clause 160

ADDITIONAL REQUIREMENTS:

System must be fitted by a Euroclad Elite Systems Recommended Installer.
 All specified components are supplied through Euroclad working to ISO 14001: 2004 Environmental Management System.
 Elite PV modules to be supplied and installed by Solar Advanced Systems Ltd
<http://www.solaradvancedsystems.co.uk>
 PV modules are to be mounted to the Euroclad Elite Secret Fix SF500 and Euroseam roofing systems via fully tested Clamps provided by Euroclad as per Clause 220.
 Fall Arrest Systems, Elite WalkSafe® & VersiRail systems to be supplied by Latchways PLC
<http://www.latchways.com>
 Metal walkways to be provided by a Euroclad recommended supplier.
 Flashings, Rainwater Goods, Fabricated details and trims by Euroclad Architectural Ltd.
 Penetrations such as flues, vents and access hatches to be weather proofed by liquid applied membrane system or on-site welding (aluminium materials only) by a Euroclad recommended supplier.

GENERAL REQUIREMENTS

- 170 **DESIGN**
 Cladding/ covering system: Complete detailed design and submit before commencement of fabrication.
 Standard: To BS 5427-1.
 Related works: Coordinate in detailed design.
- 172 **THERMAL PERFORMANCE/ BRIDGING**
 Requirement: Complete thermal design of the cladding/ covering system to avoid excessive thermal bridging.
 Standard: MCRMA Technical Paper No 14.
- 175 **PRODUCT SAMPLES**
 General: Before commencing detailed design, submit labelled samples of the following: _____.

176 **FASTENER SAMPLES**

General: During detailed design, submit labelled samples of each type of fastener.

DESIGN/ PERFORMANCE REQUIREMENTS185 **PERFORMANCE COMPLIANCE**

Verification: Before commencing fabrication, submit evidence based on laboratory testing or computer modelling.

Verifying authority (Thermal, sheet/spacer structural and acoustic performance):

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff, CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Also see British Board of Agreement Certificate Number 04/4151

187 **DEFLECTION OF METAL CLADDING/ COVERING**

Roof covering: Maximum permitted deflection under distributed loads as a multiple of span and due to:

Dead load: L/500.

Dead and imposed loads: L/200.

Dead and wind loads: L/90.

196 **INTEGRITY OF CLADDING/ COVERING**

Requirement: Determine profiles, sizes and thicknesses of sheets, the sizes, number and spacing of fixings, incorporation of other accessories and fittings to ensure cladding/ covering system will resist factored dead, imposed and design live loads, and accommodate deflections and thermal movements without damage, in accordance with BS EN 1991 and with reference to BS 5427

Primary fasteners: Not to be subjected to any bending moment.

Wind loads: Calculate to NA to BS EN 1991-1-4:2005+A1 appropriate to location, exposure, height, building shape and size, taking account of existing and known future adjacent structures.

Imposed roof load (no access): As determined from BS EN 1991 and with reference to BS 5427

Permanent imposed roof loads: _____.

Temporary imposed roof loads: _____.

198 **WATER PENETRATION**

Requirement: Under site exposure conditions, moisture must not penetrate onto internal surfaces, or into cavities not designed to be wetted.

200 **AVOIDANCE OF INTERSTITIAL CONDENSATION**

See British Board of Agreement Certificate Number 04/4151.

"Under the normal climatic conditions experienced in the UK, interstitial condensation is unlikely to be a significant problem unless the building is classed under internal humidity class 5 or the building or areas of the building have special internal design conditions".

In such cases consult with Euroclad Technical.

202 **AVOIDANCE OF SURFACE CONDENSATION**

Requirement: Determine surface condensation risk of cladding/ covering system using the method described in BS EN ISO 13788. If necessary, revise thermal insulation to provide satisfactory temperature factor (f_{min}). ensure that damage and nuisance from surface condensation does not occur.

FIXING CLADDING/ COVERING215 **PAINTING STRUCTURE**

Sequence: Paint outer surface of supporting structure before fixing cladding/ covering.

219 **FASTENERS**

Non specified fasteners: Recommended for the purpose by the cladding/ covering manufacturer.

220 **SUPPORT SYSTEM FOR ROOF MOUNTED PHOTOVOLTAIC PANELS**

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff, CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Product reference: EC SF Clamp 50

Material: Aluminium

Support brackets/rails: By Others. To be mounted on standing seam roof via EC SF Clamp 50 clamps.

Accessories: As required to complete installation.

Other requirements: PV installer to ensure that PV array allows for adequate maintenance access and that maximum allowable load per Clamp is not exceeded.

221 **FITTINGS AND ACCESSORIES**

Non specified fittings and accessories: Recommended for the purpose by the cladding/ covering manufacturer.

223 **PREVENTION OF ELECTROLYTIC ACTION**

Isolating tape: Type recommended by cladding/ covering manufacturer.

Location: To contact surfaces of supports and sheets of dissimilar metals.

241 **STEEL LINING**

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff, CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Product reference: EC 32-200-1000 Liner MW5_2L Perforated Liner

Finish/ Colour: Colorcoat Lining Enamel. Substrate must be Galvalite hot-dip zinc coated steel to BS EN 10346: 2009 S220GD+Z. Metal thickness to be a nominal 0.7mm. Bright White.

Primary sheet fasteners: For non-fragile Class C rating in accordance with ACR(M)001:2005, also see Euroclad Drawing Fr7.

Intermediate supports: Stainless steel 5.5mm dia x min 25mm long self drill Hex head and min 15mm washer every other corrugation.

Endlaps and sheet ends: Stainless steel 5.5mm dia x min 25mm long self drill Hex head and min 29mm washer, every corrugation. Fix so that there is a minimum edge distance of 70mm from the fixings to the sheet edge.

Side laps: N/A

End laps size (minimum): 140mm.

Sealing: N/A

Side lap sealing: N/A

254 **ACOUSTIC INSULATION**

Supplier: Euroclad, Wentloog Corporate Park, Wentloog Road, Cardiff CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Product reference: Elite Precut MW5 Acoustic Slab. White Tissue Faced Slab.

Placement: Tissue face down laid into troughs generally underneath VCL (over VCL only in troughs where Quattro brackets are present).

Note – where flanking prevention is required (i.e. where roof lining crosses partition walls):

Above liner: RW5 precut to suit liner troughs – already present

Below liner: Dependent on detailing but RW5 precut to suit liner or quilt insulation placed over wall and between vertical pieces of plasterboard cut on site to fit into underside of profile may be required.

261 **VAPOUR CONTROL LAYER**

See British Board of Agreement Certificate Number 04/4151

Building Humidity Classes to BS EN ISO 13788:

Classes 1 to 4:

Material: Euroclad Elite VCL

Vapour resistance (minimum): 500 MNs/g.

Tape: Euroclad Elite VCL Sealing Tape

Size (width and thickness): Min: 12mm x 1.5mm

Position: Laid generally over Elite Precut MW5 Slab (rolled into liner troughs only where Quattro brackets are present – see System drawings).

Class 5: Material: Euroclad Elite HH VCL

Vapour resistance (minimum): 30,000 MNs/g.

Tape: Euroclad Elite HH VCL Sealing Tape

Size (width and thickness): Min: 15mm x 2mm

Position: Laid generally over Elite Precut MW5 Slab (rolled into liner troughs only where Quattro brackets are present – see System drawings).

NB: For swimming pools and polluted or aggressive internal environments consult with Euroclad for a more specialised specification including specialist fixings etc.

All VCLs –

Laps: Not less than 150 mm, seal with tape. Achieve full bond.

Continuity: No breaks and with the minimum of joints.

Penetrations and abutments: Seal to vapour control membrane with tape. Use 2 rows for Class 5 applications. Achieve full bond.

Repairs and punctures: Seal with lapped patch of vapour control membrane and continuous band of sealant tape along edges.

271 MINERAL WOOL THERMAL INSULATION

Standard: To BS EN 13162.

Supplier: Euroclad, Wentloog Corporate Park, Wentloog Road, Cardiff CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Product reference: *Glass Fibre Quilt insulation (thermal transmittance value Lambda 90/90 0.040 W/mK) Rockwool Quilt insulation (thermal transmittance value Lambda 90/90 0.040 W/mK)*

Thickness (minimum): 280mm to give a 'U' value of 0.15 W/m²K where purlins are at average 1.5M centres (3 Dimensionally Modelled on software fully compatible with BS EN ISO 10211-1/10211-2. The calculations have been carried out in accordance with BR433 March 2006 and EN ISO 6946).

Placement: Continuous and lightly compressed between outer and lining sheets. Secure to prevent future movement or dislodgement.

280 BREATHER MEMBRANE

Not required in this Elite system.

300 PROFILE FILLERS GENERALLY

Material: MP

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff, CF3 2ER.

Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Colour: Black/White

Product references: Large and Small Flute Fillers to suit Euroclad profiles. External profile fillers vented.

Thickness: 25 mm | Fixing method: Secured between sheets and flashings/other elements. Internal fillers sealed to sheet and flashings/other elements using mastic.

Requirement:

To close cavities/ regulate air paths within the external envelope. Tight fit with no unintended gaps.

410 FIXING SHEETS GENERALLY

Cut edges: Clean true lines.

Penetrations: Openings to minimum size necessary.

Edge reinforcement: _____.

Sheet orientation: Exposed joints of side laps away from prevailing wind unless shown otherwise on drawings. Sheet ends, laps and raking cut edges: Fully supported and with fixings at top of lap.

Fasteners: Drill holes. Position at regular intervals in straight lines, centred on support bearings.

Position of fasteners in oversized drilled holes: Central.

Fasteners torque: Sufficient to correctly compress washers.

Debris: Remove dust and other foreign matter before finally fixing sheets.

Remove swarf as installation proceeds to avoid potential for swarf corrosion and staining.

Completion: Check fixings to ensure watertightness and that sheets are secure.

470 STRUCTURAL MOVEMENT JOINTS

Type: Cover flashing fixed on one side over gap between sheets.

Location: Coincident with structural movement joint.

Width of gap: To match structural movement joint requirements.

Requirement: Weathertight.

480 **FLASHINGS/ TRIMS GENERALLY**

Lap joint treatment: Vertical and sloping flashings/ trims: Butt joints as Clause 482
 Horizontal flashings/ trims: Butt joints as Clause 482, sealed and where possible arranged with laps away from prevailing wind.
 Method of fixing: To structure in conjunction with adjacent sheeting. Otherwise to sheeting.

482 **BUTT JOINTED FLASHINGS/ TRIMS**

Manufacturer: Euroclad Group Ltd, Wentloog Corporate Park, Wentloog Road, Cardiff CF3 2ER.
 Tel: +44 (0)2922 010101 Fax: +44 (0)2922 010122 Website: www.euroclad.com

Material: *Colorcoat HPS200® Ultra* with Confidex® guarantee including cover for cut edges for the entire guarantee period. Substrate to be Galvalloy® hot-dip metallic coated steel substrate grade S220GD+ZA, and coating weight ZA255 to BS EN 10326: 2004

Thickness (nominal): 0.7mm.

Finish side 1 (outer): *Colorcoat HPS200® Ultra high performance pre-finished steel with nominal organic coating thickness 200 µm with Scintilla® emboss with a nominal depth of 40µm and maintenance free Confidex guarantee.*

Colour: To be chosen from the product range following consultation. Note that where colour is to match roof finish, Euroclad should be notified at time of ordering.

Finish side 2 (inner): High Performance Polyester Standard Backing Coat
 Colour: Light Grey

Locations: _____

Butt straps: 150 mm wide and made from sheet of same material and finish.

Butt joints: Seal.

540 **ABUTMENTS**

Junctions with flashings: Weathertight and neatly dressed down.

Please Note:

The specification clauses above have been supplied by Euroclad for the purpose of Guidance, free of charge. They reflect Elite System requirements, Manufacturer's Recommendations and current best practice at the time of writing. System performances are dependent on the content provided by Euroclad. Therefore, if any changes are made the performances should be reverified by Euroclad.

Alternative methods or materials may be possible and in such cases clarification should be sought with Euroclad and agreed before proceeding.

Certain Clauses eg clauses 550, 460 etc have been omitted as they are not relevant to this specification or require detailed completion by the building designer.

If further guidance is required please do not hesitate to contact Euroclad.