

## 0436P FIELDERS CLADDING – PROFILED SHEET METAL

### Branded worksection

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### Worksection abstract

This branded worksection *Template* is applicable to FIELDERS lightweight external wall cladding of profiled sheet metal products.

### Background

The Australian profiled sheet steel industry is organised as follows:

- BlueScope manufacture COLORBOND® prepainted steel and ZINCALUME® steel coils.
- FIELDERS using steel coils, shape steel into different profiles and cut sheets to length.
- Installers take off material quantities, order and install, often as subcontractors to the contractor.

Additional sheet material available from FIELDERS includes:

- FIELDERS Aluminium as noted in *0437 FIELDERS cladding - specialised panels*.

### Guidance text

All text within these boxes is provided as guidance for developing this worksection and should not form part of the final specification. This *Guidance* text may be hidden or deleted from the document using the NATSPEC Toolbar or the hidden text *Hide* and *Delete* functions of your word processing system. For additional information visit FAQs at [www.natspec.com.au](http://www.natspec.com.au).

### Optional style text

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Normal* style text where it is applicable to a project.

### Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- *0342 Light steel framing* for subframing.
- *0382 Light timber framing* for subframing.
- *0432 Curtain walls*.
- *0433 Stone cladding*.
- *0434 Cladding – flat sheets and panels*.
- *0435 Cladding – planks and weatherboards*.
- *0437p FIELDERS cladding - specialised panels*.
- *0471 Thermal insulation and pliable membranes* for wall insulation, thermal break strips and vapour permeable barriers.
- *0511 Lining* for internal lightweight lining.
- *0531 Suspended ceilings – combined* for suspended soffits.

### Documenting this and related work

You may document this and related work as follows:

- Check if your cladding is required to be non-combustible, refer to BCA Section C and ABCB Advisory Note 3. Consider adding a requirement in **SUBMISSIONS** for evidence of conformance from the contractor. If using a performance solution for facade cladding, type testing to AS 5113 may be used as the verification method for combustible external walls.
- Document the structural support system to your office documentation policy.
- Locate the extent of cladding types, accessories, and finishes on drawings to your office documentation policy.
- Penetrations: Show on the drawings the location and extent of penetrations for services and structural elements including flashing details.
- If required, state the minimum added thermal resistance (R-Value) (m<sup>2</sup> K/W). See NATSPEC TECHnote DES 031 for information on specifying R-Values.
- Document bushfire protection requirements to conform to AS 3959 and the BCA. See NATSPEC TECHnote DES 018 for information on bushfire protection.

The *Normal* style text of this worksection *Template* may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search [acumen.architecture.com.au](http://acumen.architecture.com.au), the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Warranties and guarantees.

#### Specifying ESD

The following may be specified by including additional text:

- Metal cladding manufactured from recycled metal and/or is recyclable.
- Metal cladding finished with low VOC or non-VOC finish.
- Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

## 1 GENERAL

FIELDERS manufacture a comprehensive range of mainly roll-formed products which are supplied to commercial, industrial and domestic building contractors. The main manufacturing sites are at Mile End in South Australia, Wangara and Osborne Park in Western Australia, Campbellfield in Victoria, and Minchinbury in New South Wales. Branches are located at Marion, Gawler and Noarlunga in South Australia, O'Conner, Bunbury and Geraldton in Western Australia.

Products include roofing and cladding in a range of profiles and gauges, fencing systems, rainwater goods, gutters, flashings, sheet metal fabrication, fascia, purlins, door frames, KingFlor<sup>®</sup> structural decking, carports and sheds.

### 1.1 RESPONSIBILITIES

#### General

Requirement: Provide FIELDERS profiled sheet metal, lightweight external wall cladding and associated work, as documented.

*Documented* is defined in the 0171 *General requirements* worksection as meaning contained in the contract documents.

#### Location exposure severity

Exposure severity determines the grade of COLORBOND<sup>®</sup> steel and ZINCALUME<sup>®</sup> steel. Refer to BlueScope TB-01B guide on selecting steel cladding products.

#### Exposure severity category: [complete/delete]

Exposure severity category: The approximate distance from marine influence. Select from the following:

- Benign: > 1000 m from breaking surf/exposed marine or > 1000 m from calm marine.
- Moderate: 401 to 1000 m from breaking surf/exposed marine or 201 to 1000 m from calm marine.
- Marine: 201 to 400 m from breaking surf/exposed marine or 101 to 200 m from calm marine.
- Severe marine: 101 to 200 m from breaking surf/exposed marine or 0 to 100 m from calm marine.
- Very severe marine: 0 to 100 m from breaking surf/exposed marine.

For organic coating used in sheet steel, there are additional corrosivity categories. Add, if appropriate. They are:

- Tropical inland - North Queensland, Northern Territory, North-West Western Australia, Papua New Guinea and the Pacific Islands, except where affected by salinity, and
- Very high - offshore and beach front locations and aggressive industrial environments where pH may be less than 5.

Refer to the 0171 *General requirements* worksection for the designation of the Exterior atmospheric corrosivity category of the project.

### 1.2 COMPANY CONTACTS

#### FIELDERS technical contacts

Website: [www.fielders.com.au/asp/contact.aspx](http://www.fielders.com.au/asp/contact.aspx)

### 1.3 CROSS REFERENCES

#### General

Requirement: Conform to the following:

- 0171 *General requirements*.

0171 *General requirements* contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. 0171 *General requirements* references the 018 *Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

## 1.4 MANUFACTURER'S DOCUMENTS

### FIELDERS technical manuals

Specifying FIELDERS Roofing and Walling Manual: [www.fielders.com.au/manuals-software/roofing-walling-manual/](http://www.fielders.com.au/manuals-software/roofing-walling-manual/)

## 1.5 TOLERANCES

### Permitted deviations

Requirement: To AS 1562.1 clause 4.2 and FIELDERS recommendations.

## 1.6 SUBMISSIONS

### Operation and maintenance manuals

Requirement: Submit a manual of recommendations from *Specifying FIELDERS Roofing and Walling Manual* for the maintenance of the cladding system, including frequency of inspection and methods of access, inspection, cleaning, repair and replacement.

Refer to Maintenance and Care in *Specifying FIELDERS Roofing and Walling Manual*.

### Products and materials

Type tests: As appropriate for the project, submit evidence of conformance to the following:

- Metal cladding generally: Cladding and fastenings to AS 1562.1 clause 5.5 for resistance to wind pressure.
- Metal cladding in cyclonic regions to AS/NZS 1170.2: Cladding and fastenings to AS 1562.1 clause 5.6.

Type tests are carried out off-site. However, submission of evidence of a successful type test may be called up here for requirements specified in **SELECTIONS** or **PRODUCTS** when there are no **SELECTIONS**.

### Samples

Approved samples are retained on site and define the acceptable limits of colour and texture variation.

Finish: Submit samples of the cladding material.

### Subcontractors

General: Submit names and contact details of proposed installers.

Evidence of experience: [complete/delete]

e.g. Check conditions of warranty for panels selected. Delete if installer details is not required.

### Warranties

Requirement: Submit the following:

- [complete/delete]

Describe the requirements of warranties in **PRODUCTS** or **EXECUTION**, as appropriate, and list the submissions required here. e.g. Interlocking warranty for sealant type and application.

Cladding materials: Submit manufacturer's published product warranties.

## 1.7 INSPECTION

### Notice

Inspection: Give notice so that inspection may be made of the following:

- Framing, sarking, vapour barrier and insulation before covering up or concealing.

Amend to suit the project, adding critical stage inspections required.

**Hold points**, if required, should be inserted here.

## 2 PRODUCTS

### 2.1 GENERAL

#### Product substitution

Other products: Conform to **PRODUCTS, GENERAL, Substitutions** in the *0171 General requirements* worksection.

The 0171 General requirements worksection clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

### Storage and handling

Requirement: Store and handle materials to the manufacturer's recommendations and the following:

- Protect materials including edges and surfaces from damage.
- Do not drag sheets across each other or over other materials.
- Store metal materials away from uncured concrete and masonry on a level base.
- Do not store metal materials in contact with other materials which may cause staining, denting or other surface damage.
- Use gloves when handling precoated metal cladding material.

## 2.2 PROFILED SHEET METAL

### General

Requirement: FIELDERS profiled sheet metal cladding.

Design and installation: To AS 1562.1.

AS 1562.1 requires materials to conform to the following standards:

- Aluminium: AS/NZS 1734.
- Steel: AS 1397 for continuously hot-dip metallic coated sheet and strip or AS/NZS 2728 for prepainted and organic film/metal laminate products.

Stainless steel: To ASTM A240/A240M.

AS 1449 cited in AS 1562.1 for stainless steel has been withdrawn.

Selection: To the **FIELDERS profiled sheet metal cladding schedule**.

## 2.3 COMPONENTS

### Fasteners

Type, size, corrosion resistance class and spacing: To *Specifying FIELDERS Roofing and Walling Manual*.

Finish for exposed fasteners on coloured cladding: Prefinish exposed fasteners with an oven baked polymer coating to match the roofing cladding material.

### FIELDERS flashings and cappings

Standard: To AS/NZS 2904.

Coordinate with the 0423p FIELDERS roofing - profiled sheet metal worksection.

Product: FIELDERS Steel Roofing.

Material and colour: Match wall sheeting.

Rib notching: Match wall sheeting.

## 3 EXECUTION

### 3.1 PREPARATION

#### Substrates or framing

Preparation: Before fixing cladding, check the alignment of substrates or framing and adjust if necessary.

Flexible underlay: Check that the underlay is restrained.

### 3.2 INSTALLATION

#### General

Requirement: To *Specifying FIELDERS Roofing and Walling Manual*.

Fixing method: As documented or to the following:

- Steel and timber framing: Screw.
- Minimum penetration for profiled metal sheets: 30 mm for timber framing.

#### Accessories and trim

Requirement: Provide accessories and trim necessary to complete the installation, or as documented.

Corner flashing for profiled and seamed metal sheets: Finish off at corners with purpose-made folded flashing strips.

### Metal separation

Design for compatibility or detail separation.

Requirement: Prevent direct contact between incompatible metals, and between green hardwood or chemically treated timber and aluminium or coated steel, by either of the following methods:

- Apply an anti-corrosion, low moisture transmission coating to contact surfaces.
- Insert a separation layer.

Incompatible metal fixings: Do not use.

## 3.3 PROFILED SHEET METAL CLADDING

### Installation

Fixing start location: [complete/delete]

Note the elevation that will allow fixing to proceed from leeward to the windward of prevailing wind.

Swarf: Remove swarf and other debris as soon as it is deposited.

Ground clearance: Maintain documented clearance.

Cutting sheets: Wherever possible, factory cut to length. Do not use an abrasion disc.

Accessories: Provide material with the same finish as cladding sheets.

Expansion joints: [complete/delete]

Expansion joints should be provided every 35 m in sheet length for walls with concealed fixings and 24 m in sheet length for walls with exposed fixings.

## 3.4 COMPLETION

### Cleaning

Requirement: Remove excess debris, metal swarf, solder, sealants and unused materials.

Exposed metal surfaces: Clean surfaces of substances that interfere with uniform weathering or oxidisation.

Damaged materials: Replace materials that have been damaged or degraded.

### Warranties

Warranty period:

- Material warranty: [complete/delete]
- Watertight installation guarantee: [complete/delete]

Maximum material warranties - Select from:

- Zinalume® & Colorbond® range: Up to 25 30 years.

Maximum watertight installation warranties:

- Pierced fixing: 5 years.
- Concealed fixing: 20 years.

Conditions:

- Material warranty: Subject to satisfactory inspection of the installation by FIELDERS.

Sample warranties are published in *Specifying FIELDERS Roofing and Walling Manual*.

Use only where warranties extending beyond the defects liability period are available for the particular system. Insert the required warranty period and terms, which should be negotiated beforehand. If the warranty is in the form of separate material and installation warranties, require the signatures of both manufacturer and installer. Delete if not applicable.

## 4 SELECTIONS

**Schedules** are a way of documenting a selection of proprietary or generic products or systems by their properties. Indicate their locations here and/or on the drawings. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

### 4.1 PRODUCT

#### FIELDERS profiled sheet metal cladding schedule

Property	A	B	C
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Property	A	B	C
Profile			
Material type			
Thickness (mm)			
Colour			
Trims			
Flashings and capping type			
Screw fasteners			

A, B, C: These designate each instance or type or location of the item scheduled.

Edit codes in the **Schedule** to match those on drawings.

- Profile: Select from the following for screw fixed sheeting:
- FIELDERS TL-5®.
- FIELDERS S-Rib™ Corrugated.
- FIELDERS Lo-Rib™.
- FIELDERS Panelform™.
- FIELDERS Mini-Flute®.

Material type: Select the product material recommended by FIELDERS with reference to the atmospheric corrosivity category nominated for the project in *0171 General requirements*. Refer also to NATSPEC TECHnote DES 010.

- Benign: COLORBOND® steel, COLORBOND® Metallic steel or ZINCALUME® steel.
- Moderate: COLORBOND® steel.
- Severe marine: COLORBOND® Ultra steel.
- Very severe marine: COLORBOND® Stainless steel.

Galvanized finishes are available for S-Rib™ Corrugated and ¾" Corrugated with a Z600 zinc coating.

This is a guide only. Contact FIELDERS to determine the appropriate product for the project location. Please note that a different grade of COLORBOND® steel for walling applications within the same project may be required.

Thickness: Select from:

- COLORBOND® Stainless steel: 0.42.
- COLORBOND® Ultra steel: 0.42 or 0.48.
- COLORBOND® steel or ZINCALUME® steel: 0.35, 0.42 (economical/domestic/light industrial), 0.48 (commercial / industrial).
- COLORBOND® Metallic steel: 0.48.
- Pre curved sheeting: Contact FIELDERS. (The recommended thickness varies with the extent of curve.)

Colour: Consult the FIELDERS COLORBOND® Colour Charts. Refer to the *Specifying FIELDERS Roofing and Walling Manual*.

Trims: e.g. Proprietary accessories for sills, reveals or corner returns.

Flashings and capping types: List here or delete and refer to details. Flashing and capping types are available for all abutments and edge conditions and are illustrated in *Specifying FIELDERS Roofing and Walling Manual*.

Screw fasteners: e.g. Concealed or Pierced: Crest or Valley screws to suit the profile. Refer to *Specifying FIELDERS Roofing and Walling Manual* or contact FIELDERS.

#### REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1170		Structural design actions
AS/NZS 1170.2	2011	Wind actions
AS 1562		Design and installation of sheet roof and wall cladding
AS 1562.1	1992	Metal
AS/NZS 2904	1995	Damp-proof courses and flashings
ASTM A240/A240M	2016	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

The following documents are mentioned only in the **Guidance text**:

AS 1397	2011	Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
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AS 1449	1994	Wrought alloy steels - Stainless and heat-resisting steel plate, sheet and strip
AS/NZS 1734	1997	Aluminium and aluminium alloys - Flat sheet, coiled sheet and plate
AS/NZS 2728	2013	Prefinished/prepainted sheet metal products for interior/exterior building applications - Performance requirements
AS 3959	2009	Construction of buildings in bushfire prone areas
AS 5113	2016	Fire propagation testing and classification of external walls of buildings
ABCB Advisory Note 3	2016	Fire performance of external walls and cladding
BCA Section C	2016	Fire Resistance
BlueScope TB-01B	2013	Steel walling products - Selection guide
NATSPEC DES 010	2009	Atmospheric corrosivity categories for ferrous products
NATSPEC DES 018	2008	Bushfire protection
NATSPEC DES 031	2014	Specifying R-Values
NATSPEC GEN 006	2007	Product specifying and substitution
NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2016	Specifying ESD