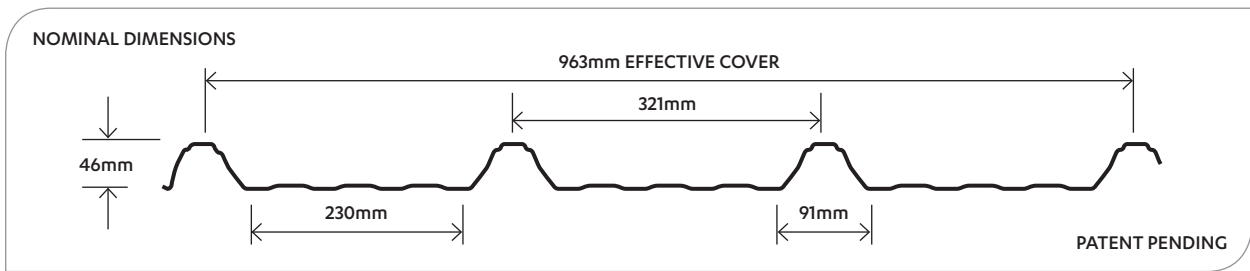




PRODUCT TECHNICAL STATEMENT

# ST963

## ✦ Profiled Metal Roofing and Cladding



### DESCRIPTION

**ST963** is a profiled metal roofing and cladding profile manufactured by Steel & Tube, having 4 trapezoidal ribs of 46mm in height. Unique design enhancements stiffen the rib shape to provide industry-leading resistance to both wind uplift and point load distortion.

### SCOPE OF USE

**ST963** is suitable for a wide range of end uses including roof and wall cladding, ceilings and linings.

For structures requiring compliance with NZBC Clause E2, minimum pitch is 3°.

**ST963** can be spring curved in .55mm thickness G550 steel to a minimum radius of 60 metres.

Roof runs in excess of 80 metres should be checked for water run-off capacity. Provision for thermal expansion should be considered for lengths in excess of 18 metres in steel and 12 metres for other materials.

### MATERIALS

**ST963** is available in a wide range of material including .40mm and .55mm Zinalume steel, and .70mm and .90mm aluminium, both with or without factory applied paint coatings. Galvanised steel, stainless steel and other non-ferrous materials are available subject to limitations.

Material	Thickness	Grade	Strength
Steel	.40 or .55mm	AZ 150	G550
Aluminium	.70 or .90mm	Alloy 5005	H36

Glass reinforced plastic sheeting is available in a matching profile in translucent, opalescent and opaque finishes. Where required for smoke venting, polycarbonate translucent sheeting can be matched to the profile in full length runs.

### MASS (KG/M<sup>2</sup>)

.40mm B.M.T.	4.05	.55mm B.M.T.	5.67
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### MAINTENANCE

Maintenance of steel substrates must be carried out in accordance with New Zealand Steel *Specifiers and Builders Guide*.

Generally required maintenance of exposed well washed roof areas is rainfall only, with an annual inspection to check on the build up of any contaminants. Sheltered roof areas, walls, and areas subject to the build up of contaminants will require programmed maintenance to provide design life expectations.

Maintenance of other substrates should be in accordance with manufacturer's requirements for the specific environment and application.

### INSTALLERS

A list of local installers for your area and contract type is available from your local Steel & Tube branch or our website [www.steelandtube.co.nz](http://www.steelandtube.co.nz)

### WARRANTY PLUS

Steel & Tube **WarrantyPlus** is the most comprehensive warranty available in the industry. **WarrantyPlus** covers an extended range of performance criteria, is supported back-to-back by our suppliers, includes site-specific maintenance requirements and is transferable to subsequent owners.

## COMPLIANCE WITH NZ BUILDING CODE REQUIREMENTS

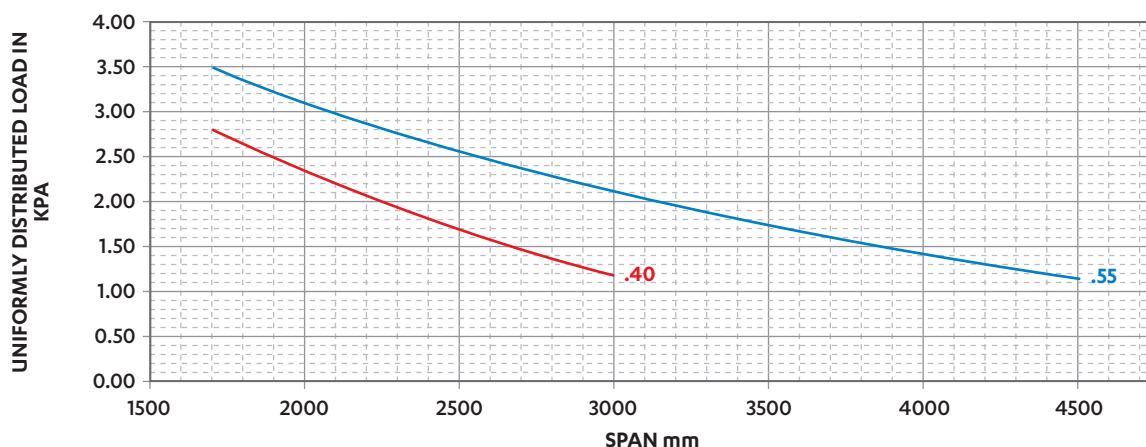
### NZBC CLAUSE E2 – EXTERNAL MOISTURE

**ST963** will comply with the performance requirements of E2 when installed in accordance with E2/AS1. Alternatively, when designed in compliance with the NZ Metal Roof and Wall Cladding Code of Practice, or *Steel & Tube Roofing Solutions Product Guide*, **ST963** will comply with Clause E2 where SLS wind loads do not exceed 3.0 kPa. For applications in higher design wind load zones, or critical installations, contact the Steel & Tube technical team for design advice, call 0800 333 247.

### NZBC CLAUSE B1 – STRUCTURE

In .40mm or .55mm steel, G550 grade (high strength) **ST963** will meet the requirements of B1 for the following loads and spans. Figures are given for rib fastening with self drilling screws and proprietary load spreading washer to each rib. Pan fixing of wall cladding will also attain the same loads. For other materials or grades of material, or applications outside the attached graph, specific design is required.

**ST963 SERVICEABILITY LIMIT STATE WIND LOAD GRAPH\***



**Point load limits** — .40mm. Suitable for controlled traffic. Withstands 1.1 kN point load in pan of profile\*\*  
 — .55mm. Suitable for heavy traffic. Withstands 1.1 kN point load on rib of profile\*\*

\* Serviceability failure determined by permanent deformation of cladding adjacent to fastener heads as defined by New Zealand metal Roof and Wall Cladding Code of Practice.

\*\*When tested in accordance with New Zealand Metal Roof and Wall Cladding Code of Practice.

End spans should be reduced by 33%. Wall cladding maximum spans are .40mm, 3.0m, .55mm, 4.5m.

Foot traffic up the roof must take place in the pan of the profile, traffic across the roof must take place along the purlin lines.

**To minimise the risk of roof traffic damage, Steel & Tube recommends Heavy Traffic maximum spans be used for any roof that will be accessed for cleaning or maintenance.** For practical purposes, maximum roof spans of < 3.500m are generally recommended.

Typical fasteners: into steel 14g x 90mm, into timber 14g x 100mm, Class 4 Minimum, of material compatible with the roof material and durability no less than the sheet material.

### NZBC CLAUSE B2 - DURABILITY

With normal maintenance, the requirements of Acceptable Solution B2/AS1 will be met by nominated materials in the following environments as defined in New Zealand *Steel Specifiers and Builders Guide* June 2010.

## ENVIRONMENTS

**For severe marine sites, corrosive internal environments, or where local industrial or geothermal conditions are present, the advice of your local Steel & Tube branch is recommended.**

Environment	Exposed Roofing	Wall Cladding	Fastener Class
Very Severe Marine E2/AS1 Zone E	Colorcote ARX, Colorsteel Maxx*, Aluminium	Colorcote ARX, Aluminium	5
Severe Marine E2/AS1 Zone D	Above plus: Colorsteel Endura	Above plus: Colorsteel Maxx	4 or 5
Severe Marine E2/AS1 Zone D	Above plus: Zinalume	Above plus: Colorsteel Maxx	4
Moderate Inland E2/AS1 Zone B	All of the above	Above plus: Zinalume	4

\*Minimum 100m from high tide West Coast, 50m East Coast.

**Note:** Trademarks apply to the following products presented in this publication: Colorcote, ARX, Colorsteel, Endura, Maxx, Zinalume.