

AudioPerf®

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Place of Manufacture**Aotearoa New Zealand****Technical Manual**<https://www.dimond.co.nz/downloads>**Product Description****1.1. Description**

AudioPerf® is a perforated ceiling system for commercial applications, is manufactured from perforated metal and aluminium coil into a wide range of profiles. Developed for large and medium scale building application and particularly large span ceiling applications AudioPerf® gives strong clean lines and bold symmetry. With modern forms it is used to create dynamic shadows and can be integrated with bespoke flashings to create negative details and installation points for sprinklers, light units etc. AudioPerf® can provide acoustic and fire performance and is an ideal choice for school buildings, including swimming pools and gymnasiums or large retail/office spaces.

1.2. Product Variations (Thickness, Shape, and General Product Variables)

Refer to Table 2.1A, of the Dimond Technical Manual, which summarises the general sheeting material options available. Refer to the Dimond Technical Manual for specific information by profile. Please also refer to the Dimond Colour Chart for the full range of available colours in each of the paint coating types, (<https://www.dimond.co.nz/colour-range/standard-colours>)

1.3. Coating & Classes

Manufactured using different paint coatings available from Pacific Coilcoaters or New Zealand Steel depending on the durability required for the environment the roof or wall will be installed in, in accordance with AS/NZS 2728. For more information refer to Table 2.1C of the Dimond Technical Manual.

Refer to environmental literature available from Pacific Coilcoaters or New Zealand Steel or contact Dimond® Roofing on 0800 766 377.

Duraclad® is recommended for use in special areas such as fertiliser works or very severe marine.

Scope of Use**2.1 Recommend for use where:**

- Roof pitch meets the minimum required pitch for the selected product.
- Maximum purlin spacing does not exceed the wind uplift load from the product load span chart and is appropriate for the chosen service category for required foot traffic.
- Specify coating on steel to match the environment.
- Can be used as wall cladding either vertically or horizontally.
- Specify fixing type and length to be used with the correct purlin material
- Ensure there is an allowance for thermal expansion on sheet lengths above 15m
- Can be installed on top of cavibat ventilation batten

(Refer to Dimond Technical Manual 2.1.4 for specific profile data)

2.2 Intended product use

Dimond long run roofing and wall cladding is intended to only be used on roof or wall constructions as the building envelop on either commercial or residential new or rebuild projects.

2.3 Limitations on use

Reference to sections below of the Dimond Technical Manual is required to ensure the expected system performance is achieved;

Dimond Technical Manual	Section Number
Roofing & Cladding Durability Information	2.1.1
Roofing and Cladding General Design	2.1.3
Specific Design by Profile	2.1.4
Roofing and Cladding Components	2.2
Installation Information	2.3

Compliance with the NZ Building Code

3.1 Compliance Statement and Applicable NZBC clauses

Past history of use of long run metal roofing and cladding products in New Zealand and information available from Pacific Coilcoaters and New Zealand Steel indicate that provided the system design, installation, use and maintenance is in line with the guidelines contained in the current Dimond Roofing technical literature and standards referenced therein, Dimond® Roofing long run metal roofing & wall cladding systems can reasonably be expected to meet the following performance criteria outlined in New Zealand Building Code;

- **B1 Structure: Performance clauses B1.3.1, B1.3.2, B1.3.3 (a) (b) (c) (g) (h), B1.3.4 (b) (d):** Dimond long run roofing and wall cladding has been tested in accordance with the NZMRM code of practice Section 17.1.
- **C3 Fire affecting areas beyond the fire source: Buildings C3.4(a):** Testing has been carried out material suppliers in accordance with the relevant standards stated in C3.4(a).

Relevant Standards

- NZBC - E2/AS1 - External Moisture/building performance
- NZMRM Cop - NZ Metal Roof and Wall Cladding Code of Practice
- AS 1562.1:2018 - Sheet roof and wall cladding
- AS 4040.1,2 and 3-1992 - Methods of testing sheet roof and wall cladding resistance to concentrated loads, wind pressure for non-cyclone and cyclone regions
- AS/NZS 2728:2013 - Prefinished/prepainted sheet metal products for interior/exterior building applications - Performance requirements
- AS/NZS 1530.3:1999 - Methods for fire testing on building materials, components, and structures. Simultaneous determination of ignitability, flame propagation, heat, and smoke release
- AS/NZS 4020:2018 - Testing product for use with drinking water
- ISO 5660-1:2015 - Reaction to fire tests - Heat release. Smoke production and mass loss rate. Part 1
- ISO9223:2012 - Corrosion of metals and alloys - Corrosivity of atmospheres - Classification, determination, and estimation

Durability & Maintenance Requirements

4.1 Environments

Manufactured using different paint coatings and substrates for various environmental conditions depending on the durability requirements for each environment, subject to reference of suppliers literature, guidance from Dimond® and confirmation of warranty from Pacific Coilcoaters or New Zealand Steel.

For guidance, refer appropriate sections of the Dimond Technical Manual:

Dimond Technical Manual	Section Number
Environments	2.1.1.2

4.2

4.3 **Dimond® Roofing recycle** all metal scrap and offcuts which can then be reused in other metal based products. At the end of useful life metal roofing and cladding products can be recycled.

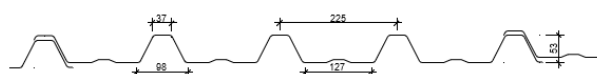
Refer appropriate sections of the Dimond Technical Manual.

Dimond Technical Manual	Section Number
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Design

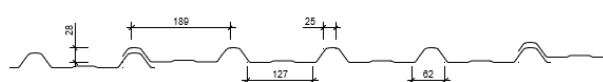
5.1 AUDIOPERF® Profile

Steel Span & Topspan®



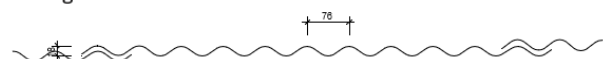
Cover (mm) 900
Sheet width (mm) 970

Hi-Five, Styleline, Veedek®



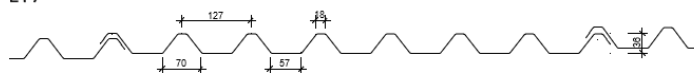
Cover (mm) 755 Profile shape drawn is Styleline.
Sheet width (mm) 810 Hi Five and Veedek similar.

Corrugate



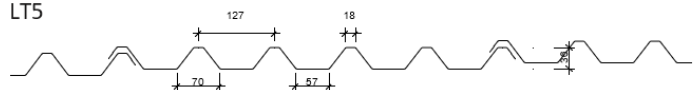
Cover (mm) 762
Sheet width (mm) 851

LT7



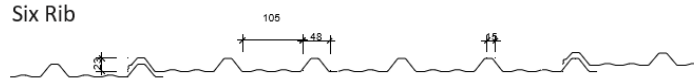
Cover (mm) 889
Sheet width (mm) 933 Wellington and 942 Invercargill

LT5



Cover (mm) 635
Sheet width (mm) 725

Six Rib



Cover (mm) 760
Sheet width (mm) 851

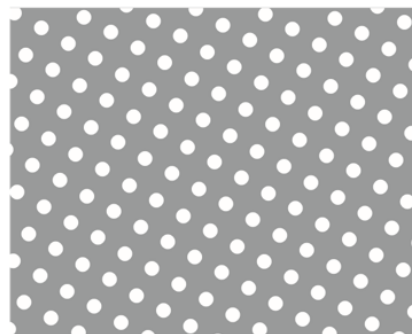
5.2 Perforation Options

Note: For acoustic performance, AP143 is recommended

AP119 – 2.5mm at 15mm centres 7% open area



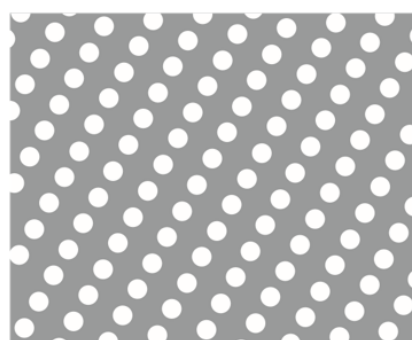
AP143 – 3.2mm at 6.35mm centres 23% open area



AP129 – 3.2mm at 5mm centres 32% open area



AP165 – 4mm at 5mm centers 58% open area



5.3 Specifications

Audioperf® Installation for internal purlin/ceiling batten centres (m)

Material	Corrugate	6-Rib	Hi Five	V Rib	LT7 & 5	Steel/Topspan®
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G300 0.55 Zincalume® (unpainted)	1.30	1.35	1.50	1.60	1.60	1.70
G300 *0.55 ZinaCore™	1.30	1.35	1.50	1.60	1.60	1.70
G300 **0.55 MagnaFlow™	1.30	1.35	1.50	1.60	1.60	1.70
H34-36 0.70 Aluminium	1.30	1.35	1.60	1.60	1.60	1.70
H34-36 0.90 Aluminium	1.30	1.65	1.70	1.80	1.80	2.00

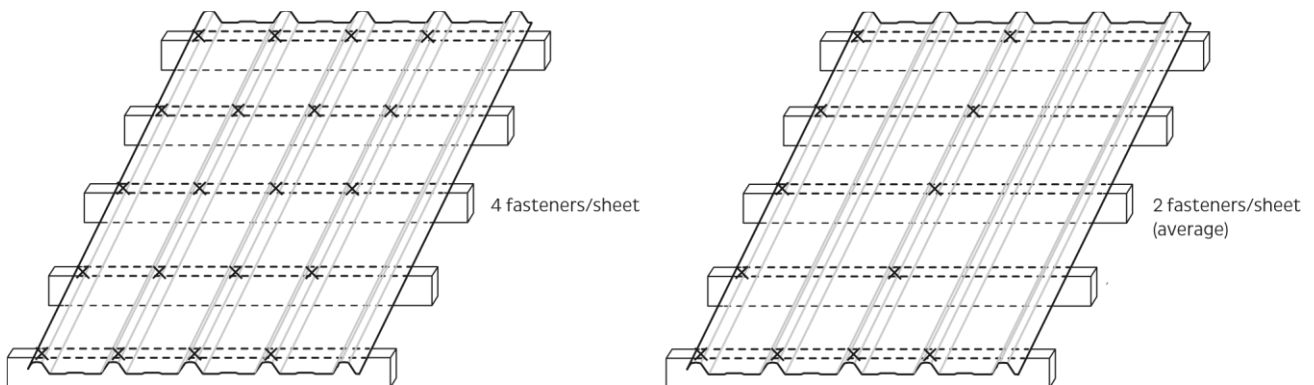
Spans for roofing where the ultimate wind uplift load does not exceed 1.5 kPa.

Spans for walls are limited by an acceptable appearance or an ultimate wind uplift load of 2kPa.

*Restricted Access Roofing

**For more information, please refer to Dimond's website

5.3 AUDIOPERF® Fastener Layout Options



Can be installed over plastic cavibat battens.

For more information, please refer to Dimond® Roofing website <http://www.dimond.co.nz/>

Installation and Construction Instructions

For installation instructions please refer to the sections of Dimonds Technical Manual Installation Guide references below or the links provided;

Dimond Technical Manual Installation Guide Reference	Section Number
Handling and Storage	2.3.1
Layout and fastening	2.3.2
Flashings	2.3.3
General Workmanship	2.3.4
Dimond CAD details	https://www.dimond.co.nz/downloads#drawings
Code of Practice	https://www.metalroofing.org.nz/cop/introduction

6.1 Warnings/Bans

Not subject to any warning or ban under section 26 of the Building Act 2004.

DISCLAIMER

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