

Formsteel™

FormClad®

Cladding and Roofing Systems



SmartDek® 760

Profile Overview and Technical Brochure

0800 800 003
formsteel.co.nz

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SmartDek® 760



Build smarter with SmartDek® 760. A modern dual purpose profile that delivers both design flexibility and performance across all building projects. Rain, hail, wind or snow, SmartDek® will give your building maximum protection for decades.

For online technical information visit www.formsteel.co.nz

For Design Advice & Technical Assistance: Contact your Formsteel Sales Centre: 0800 800 003

For Sales, Delivery, Availability & Pricing Information: Contact your Formsteel Sales Centre: 0800 800 003

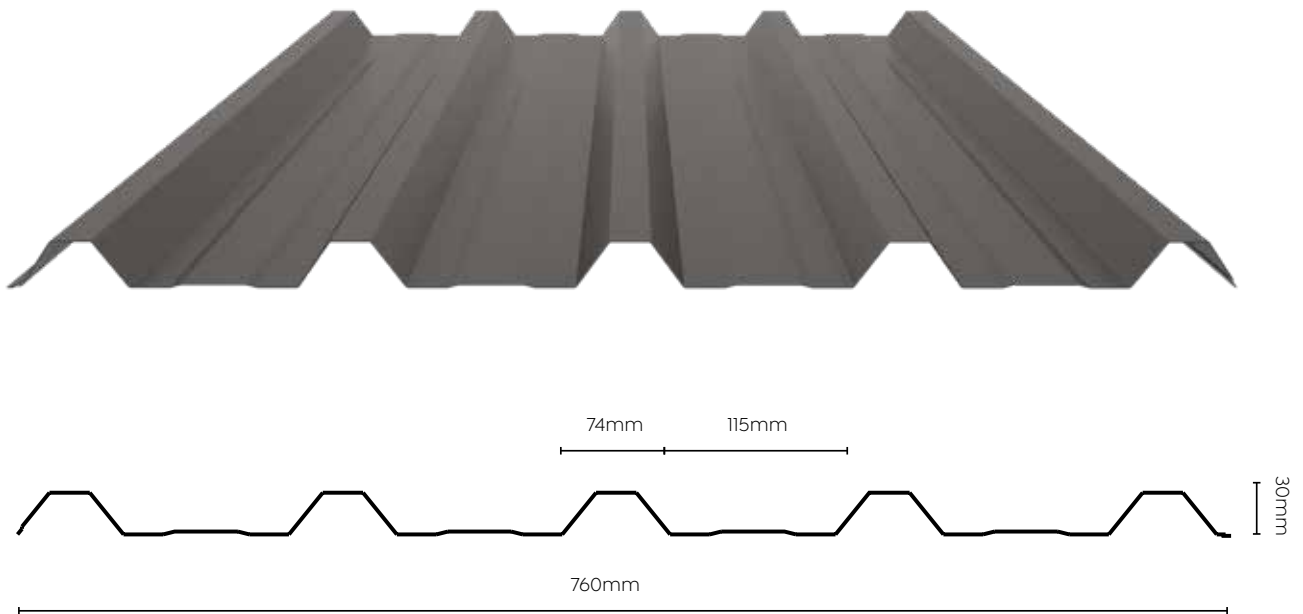
SmartDek® 760 trapezoidal metal profile is a dual purpose, single-skin wall and roof system that delivers a distinctive modern look with maximum strength & design flexibility to any project. The aesthetic profile is suitable for all types of applications across commercial, industrial, agriculture, residential where low pitched, or near flat roofs are a key design feature. The trapezoidal shape provides greater water carrying capacity and excellent spanning capabilities. It can also be used for walls, fascias,

spandrel cladding, and more. Available in a range of our popular colour or Zinc finishes throughout New Zealand, in 0.4 or 0.55mm base metal thicknesses. SmartDek® 760 can be supplied with all the necessary fasteners and accessories. Translucent sheeting options also available in the SmartDek® 760 profile. With SmartDek® 760 the range of possibilities for your building project are endless, backed up with market leading warranties and quality that will stand the test of time.

SmartDek® 760 Profile

Aesthetic SmartDek® 760 styled profile
 Choose from Colorsteel® & Kiwicolour® colour ranges
 Forms structural diaphragm with all ribs working.
 Premium Pre-Painted Coating
 Excellent water carrying capacity

Lay at lower pitch of 3 degrees
 Strengthens building structure
 Efficient fixing
 Translucent sheeting also available
 G550 grade steel gives more resilience to damage



Thickness	0.40mm, 0.55mm
Material	Z400 - G550 zinc coated strip (AS/NZS 1397:2011)
Finishes	FormClad PVDF Coating, Colorsteel® or KiwiColour®
Minimum Pitch	3 degrees
Coverage	760mm
Applications	Commercial / Industrial
Long-run Length	Up to 30 metres custom cut over certain lengths. Ministry of Transport approval may be needed.
Orientation	Horizontal & vertical wall cladding
Unsupported Overhang	0.40mm = 210mm Overhang. 0.55mm = 310mm Overhang.

Falls	Recommended Fall	Rafter Length
Minimum Fall =	3° (40mm/metre)	up to 9m
	3.5° (60mm/metre)	over to 9m
	4° (70mm/metre)	over to 14m
	4.5° (79mm/metre)	over to 18m
	5° (87mm/metre)	over to 23m

Roofing Spans Access Restricted

WITH Snow Load 1 kPa at SLS						
Roofing Span Length (m)						
SLS wind on roof (kPa)	Simply Supported		End Span		Internal Span	
Thickness (mm)	0.4	0.55	0.4	0.55	0.4	0.55
0.5 kPa	2.0	2.6	2.4	2.8	2.7	3.2
0.6 kPa	2.0	2.5	2.4	2.8	2.7	3.2
0.7 kPa	2.0	2.4	2.4	2.8	2.7	3.2
0.8 kPa	2.0	2.3	2.3	2.8	2.5	3.1
0.9 kPa	1.9	2.2	2.1	2.7	2.4	2.9
1.0 kPa	1.9	2.1	2.0	2.6	2.3	2.8
1.1 kPa	1.8	2.0	1.9	2.5	2.1	2.8
1.2 kPa	1.8	2.0	1.8	2.4	2.1	2.7
1.3 kPa	1.7	1.9	1.8	2.4	2.0	2.6
1.4 kPa	1.7	1.9	1.7	2.3	1.9	2.5
1.5 kPa	1.6	1.8	1.6	2.2	1.8	2.5
1.6 kPa	1.6	1.8	1.6	2.1	1.8	2.4
1.7 kPa	1.5	1.8	1.5	2.1	1.7	2.3

WITHOUT Snow Load 1 kPa at SLS						
Roofing Span Length (m)						
SLS wind on roof (kPa)	Simply Supported		End Span		Internal Span	
Thickness (mm)	0.4	0.55	0.4	0.55	0.4	0.55
0.5 kPa	2.4	2.6	2.9	3.3	3.2	3.6
0.6 kPa	2.2	2.5	2.6	3.1	2.9	3.4
0.7 kPa	2.1	2.4	2.4	2.9	2.7	3.2
0.8 kPa	2.0	2.3	2.3	2.8	2.5	3.1
0.9 kPa	1.9	2.2	2.1	2.7	2.4	2.9
1.0 kPa	1.9	2.1	2.0	2.6	2.3	2.8
1.1 kPa	1.8	2.0	1.9	2.5	2.1	2.8
1.2 kPa	1.8	2.0	1.8	2.4	2.1	2.7
1.3 kPa	1.7	1.9	1.8	2.4	2.0	2.6
1.4 kPa	1.7	1.9	1.7	2.3	1.9	2.5
1.5 kPa	1.6	1.8	1.6	2.2	1.8	2.5
1.6 kPa	1.6	1.8	1.6	2.1	1.8	2.4
1.7 kPa	1.5	1.8	1.5	2.1	1.7	2.3

Cladding span lengths shall be multiplied by a factor 1.15 if one of the following condition is met:

- 1) Importance level 1 structures OR
- 2) Ratio between inward and outward wind pressure at SLS is less than 0.7

Cladding Spans

SLS Wind on Cladding (kPa)	Cladding Span Length (m)					
	Simply Supported		End Span		Internal Span	
	0.4	0.55	0.4	0.55	0.4	0.55
0.5 kPa	2.4	2.6	2.8	3.3	3.1	3.6
0.6 kPa	2.2	2.5	2.6	3.1	2.9	3.4
0.7 kPa	2.1	2.4	2.4	2.9	2.7	3.2
0.8 kPa	2.0	2.3	2.2	2.8	2.5	3.1
0.9 kPa	1.9	2.2	2.1	2.7	2.3	2.9
1.0 kPa	1.9	2.1	2.0	2.6	2.2	2.8
1.1 kPa	1.8	2.0	1.9	2.5	2.1	2.8
1.2 kPa	1.8	2.0	1.8	2.4	2.0	2.7
1.3 kPa	1.7	1.9	1.7	2.4	2.0	2.6
1.4 kPa	1.7	1.9	1.7	2.3	1.9	2.5
1.5 kPa	1.6	1.8	1.6	2.2	1.8	2.5
1.6 kPa	1.6	1.8	1.6	2.1	1.8	2.4
1.7 kPa	1.5	1.8	1.5	2.1	1.7	2.3

Cladding span lengths shall be multiplied by a factor 1.15 if one of the following condition is met:

- 1) Importance level 1 structures OR
- 2) Ratio between inward and outward wind pressure at SLS is less than 0.7

Loading Zones & Descriptions

Zone 1

Corresponds to NZS4203 Wind Regions 1, Sand 7.

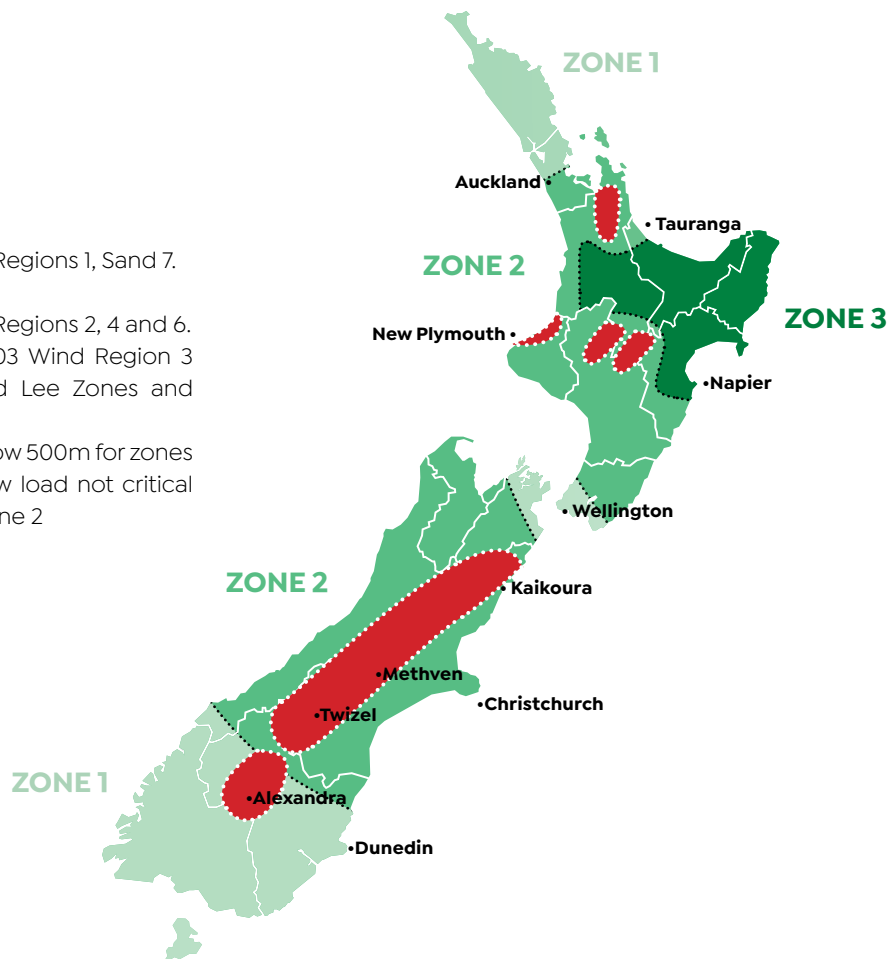
Zone 2

Corresponds to NZS4203 Wind Regions 2, 4 and 6.

Zone 3 Corresponds to NZS4203 Wind Region 3

Corresponds to NZS4203 Wind Lee Zones and requires specific design.

Note: Snow load not critical below 500m for zones 1, 3 & North Island Zone 2. Snow load not critical below 330m for South Island Zone 2



Choose from a quality range of pre-painted steel coatings made for New Zealand's unique environment.



Colorsteel® Range



Colorsteel® range is inspired by the landscape that surrounds us. Colorsteel® products undergo intense, long-term colour performance and exposure testing. Formsteel don't compromise on quality either, we only specify **FormClad profiles in COLORSTEEL® MAXX®**. Designed specifically for New Zealand's more extreme conditions, COLORSTEEL® MAXX® will stand up to higher atmospheric salt concentrations.

For Availability & Pricing Information: Contact your Formsteel Sales Centre: 0800 800 003

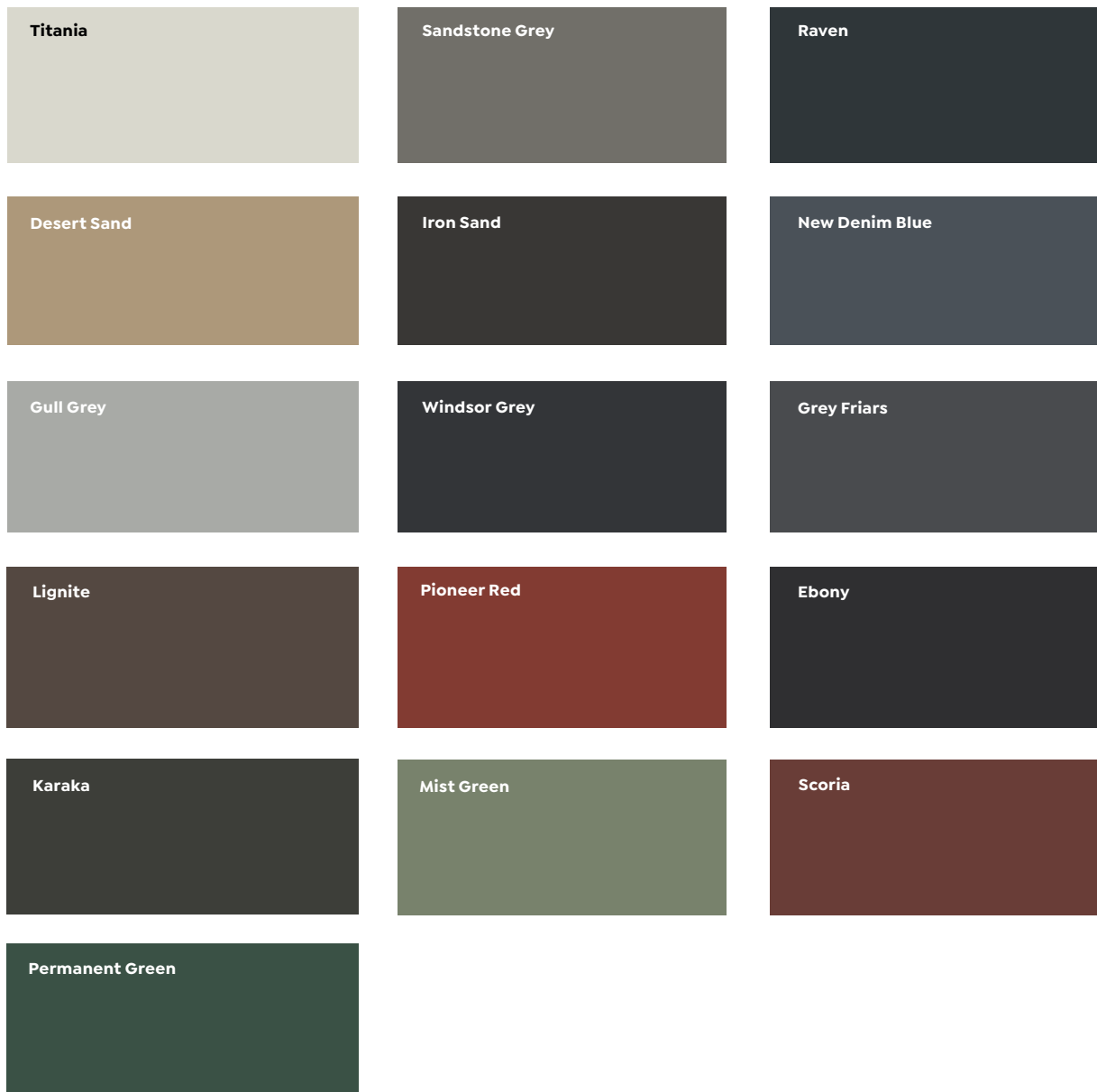


KiwiColour® Range



KiwiColour® provide a range of pre-painted steel product coatings, specifically designed and developed to withstand the high levels of UV and salt in the New Zealand environment. Our steel coating options provide complete reassurance that your steel roofing, cladding or fencing will not only look great when new, but stay that way for a long time. **FormClad profiles specified in VITOR+® or VITOR+ZX®.**

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Design Guide

Building design & product selection

The designer must ensure that the most appropriate roofing and cladding product is chosen for the building. There are several considerations to take into account. Aesthetics and product availability are essential, but ultimately the chosen profile must meet specific performance criteria - ability to shed water from the roof and the ability of the product to span purlin and girt spacings. For most roof installations, the purlin spacings are determined by the traffic-able limitations of the profile, or the structural design.

It's then necessary for the designer to calculate the design wind load for the roofing and cladding regarding AS/NZS 1170.2:2011 and NZS 3604:2011. The purlin spacings should be limited to the lower of the traffic-able limitations and design wind load, with the capacity of the structure being higher than the design load for the application. For more detail, refer to <https://www.metalroofing.org.nz/cop> for NZ Metal Roof and Wall Cladding code of practice. For roofs or wall cladding applications that are un-trafficable or have traffic-able limitations, these limits may be exceeded if the design wind loading criteria adhered to. Please note that it may require considerable extra secondary fasteners installed within the laps.

There are other factors the designer should always take into account. Such as where heavy roof traffic is likely, high snow loadings in NZ high country regions, or where the roofing supports extra equipment such as air conditioning units. We recommend that the purlin spacing should be reduced accordingly in light of these factors. Important to note that consideration should be given to translucent sheeting & limitations around purlin spacings.

Storage & handling

SmartDek® 760 should be stored under cover at all times. Care should be taken during handling to avoid distortion or damage to the corners, ribs and the clipping edges. Where the clipping edges are deformed they should be straightened before installation and fixing.

Supply & service

Available from Formsteel and through distributor fixers. The manufacturer maintains a technical design and quotation service for designers and specifiers.

General fixing

SmartDek® 760 may be fixed to timber or steel portal frames and trusses, widening the need for purlins & girts

Fixing method

For SmartDek® 760 the fixing method provides for fixing through the crest of the rib with 105mm Tek screws (to steel purlins). Fix through metal washer and roofing. Expansion and contraction is allowed for when lengths exceed 30 metres by lapping the sheets in accordance with the Formsteel detail.

Minimum fall:

SmartDek® 760 should be laid to a minimum fall of 50mm in 3 metres (1 in 60). For changes in pitch or break in direction the ribs may be cut and capped. SmartDek® 760 may be reverse fixed on cladding applications.

Paint durability & maintenance

SmartDek® 760 is designed with a premium PVDF coating for absolute maximum protection against the weather and environmental elements. The corrosion zone set out in the maintenance schedule determines how often you need to wash the building. Many factors determine the corrosivity of a particular location, and are identified as moderate, severe or very severe, based on proximity to the coast, geothermal or high wind environments. The designer should choose the appropriate materials for the location, which meet the standard durability requirements of the NZBC and satisfy customer expectations. For maintenance of Formclad coated steel and AZ-Form, contact Formsteel.

Material thickness

For commercial and industrial applications, 0.55 is almost universally used on the roof, and 0.40 or 0.55 on the walls. In higher winds speeds, fastener patterns may have to be increased or purlin spacings decreased to accommodate wind loads, or thicker materials can be used. In buildings with high foot

traffic expectancy or highly visible roofs, eg, multi-level mono pitch roofs, roofs with UV collectors, flues, air-con devices or chimneys that need servicing 0.55 material should be selected. G300 at 0.55 is the most common specification for spouting, flashings and ridging.

Translucent sheeting

Translucent sheeting is manufactured to the highest specification that resists UV degradation and yellowing much longer than what is usually experienced with general purpose translucent roofing products. We recommend Opal as the best choice because of its lower light and solar transmission properties in commercial & industrial buildings. The 3660g/m² is fully traffic-able. It's further supported by our manufacturers comprehensive 25 year warranty and a 20 year visible light and solar transmission warranty.

Dissimilar metals corrosion

Where 2 different metals are in contact and moisture is present, one metal is relatively protected while the other suffers accelerated corrosion. This is known as galvanic or bi-metallic corrosion. A similar effect commonly occurs with water flowing over dissimilar metals. This form of corrosion is commonly found:

1. Where water is discharged from copper or brass systems over a galvanised, AZ-Form or Zincalume steel roof.
2. Where unpainted lead flashings are applied directly to AZ-Form or Zincalume products.
3. Where fasteners are incompatible with the roofing material.

Separate dissimilar metals by using a barrier such as PVC tape, bituminous felt, neutral cure silicone sealant or an appropriate paint system. Prevent potential run-off from copper or brass pipes over Galvanised Steel, Zincalume, AZ-Form or Form Clad painted surfaces by diverting the discharge clear of the roofing. **Note:** Coastal areas with high salt levels and high humidity will increase the possibility of dissimilar metals corrosion.

Run-Off From Inert Materials

The zinc coating on galvanised steel products develops a protective surface film as a result of natural weathering. This provides the longevity of performance which we have come to expect from Galvanised steel products. When flowing over galvanised roofing, rainwater dissolves small amounts of minerals and salts from the zinc surface. These minerals and salts promote and maintain the protective film on and enhance the corrosion resistance of downstream galvanised steel products (eg lean-to roofs, gutters and valleys). However when rainwater flows over, or is collected from roofing materials which do not promote this protective film (INERT MATERIALS), accelerated corrosion of unpainted galvanised steel roofs and gutters can occur.

Some examples of inert materials

- AZ-Form or Zincalume material
- Colorsteel material
- Acrylic
- Glass
- Glazed tiles
- Aluminium
- Fibre-glass
- PVC

On galvanised roofing Run skylights down to the gutter. To achieve maximum life from your rainwater goods we recommend that they are manufactured from either FormClad® products. Unpainted galvanised steel must not be used for roofing or rainwater goods, including valleys and gutters, to collect water run-off from AZ-Form, Zincalume products or any other inert material.

Edge sealing

FormClad® material is designed for Very Severe Environments and its performance relies on maintaining the integrity of the barrier coating. Where FormClad® material is C cut, the cut edge must be sealed in order to retain the protective envelope. All cut edges of sheets and accessories such as ridging, flashings and guttering should be treated.

General SmartDek® 760 Roofing Fixing Instructions

***Refer to instruction manual for full installation details for all roofing & cladding profiles.**

Walk only in the pans.

End turn-up tools are available from Formsteel. Sheets must be clipped together as they are laid and then screwed. Generally they will not clip after screwing.

Lap stitching at 1/3 points on spans over 5 metres.

Wind pressure can cause failure in roof systems in 2 ways. destructive positive upward pressure can be exerted by high winds at eaves with unusually large overhangs, and powerful negative pressure (suction) effects can be created both on the leeward side of the ridges or parapets and over the total area of flat roofs.

Expansion may normally be allowed for with oversize holes 10mm to 12mm through rib -allow for expansion both ways from centre of the sheet.

Neoprene washer (PD3) and cap washer (PD1) to be placed under head of screw and screwed down using a suitable power tool with the head of screw brought down just firm. DO NOT OVER-TIGHTEN SCREWS.

Tek screws must be 80mm long for fixing to steel purlins through crest of rib.

Type screws must be 80mm long for fixing to timber purlins through crest of rib. DO NOT PRE-DRILL TIMBER FOR WOOD-SCREWS OR HAMMER IN WOOD SCREWS.

Fixing method A Screw through metal washer PD1 (as specified) with neoprene washer between metal washer and roofing.

1. Sheet must be fastened to every purlin (or girt) to transfer outward loads evenly to every structural

member.

2. The screw and washer system used should meet specification requirements and have a durability to at least match that of the sheeting, and be in accordance with Formsteel literature for that profile.

3. Fasteners must be perpendicular to the sheeting and tightened sufficiently to effect a durable seal without over tightening. Over tightening results in the seal washer distortion, or the profile crest dishing and depressing. Fixings must be to a line.

Fixing cladding All fixings shall be tightened to TOUCH SHEET ONLY. Otherwise deformation of the pan will occur, and the appearance of this is unsightly. Fixings must be backed off to achieve a flat pan.

Netting 19 gauge 75mm netting is recommended in 2m wide rolls and is adequate for all spans but should be laid out carefully to 2m edge of netting and then clip or twist edges together. Specify Sisalation® or building paper in 1.370m wide rolls, this covers 2 runs of roofing per width.

Substructure Care must be taken to ensure that the roof framing is adequately tied to the walls, galvanised steel straps or long bolts must be used.

Walking on the roof. SmartDek® 760 will support the weight of a man even when fixed at the maximum support centre suggested in our pamphlet. However, to minimize risk of denting ribs. WALK ONLY IN THE PANS. USE APPROPRIATE FOOTWEAR.

Storage and handling Care should be taken during handling, transport & storing of SmartDek® 760 roofing to protect the corners, ribs & particularly the clipping edges from damage. If clipping edges are deformed they should be straightened before laying.

Paint manufacturers instructions should be followed. CLEAN OFF ALL CONSTRUCTION DEBRIS AND DRILLING OR GRINDING DEPOSITS AS WORK PROCEEDS AND ON COMPLETION.

Fixings

Low / Medium Wind Zone:

12-14 x 80mm Tek screws with neo washer and embossed washer.

High Wind Zone:

12-14 x 80mm Tek screws with neo washer & embossed washer, approved profile's metal washer & EPDM washer.

Wall Cladding Fixings:

Every pan with 12 x 25mm Tek screws with neo washers.

Fixings, Fastenings And Underlay

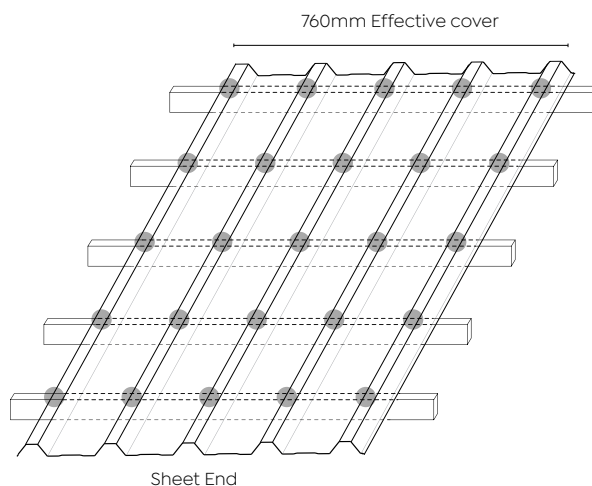
All primary fasteners to have a minimum embedment into structural timber of 30mm. Adjust fastener length for both timber and steel fixings when necessary for battens etc. When using load spreading profile washers for roofing fix ridding, roof flashings etc, use a 25mm Aluminium embossed washer and appropriate screw.

All fixings and fasteners are to be of an approved type, compatible with all materials, the environment and meeting the requirements of the NZ Building Code. Installation is to be in accordance with the NZ Metal Roof and Wall Cladding Code of Practice or manufacturer's instructions. Fix every crest to: Ridge, Hip, Valley, Gutter and Periphery area. Underlay as per the project specification is to be used.

SmartDek® 760 Sheet Fixings

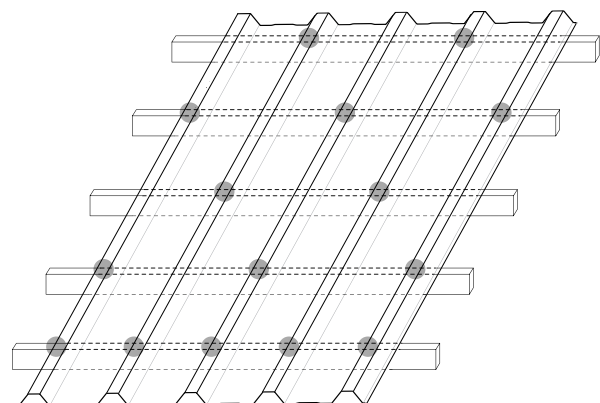
Option A:

Fastner layout for high wind zones



Option B:

Fastner layout for moderate to low wind zones



Translucent Sheeting

visible light and solar transmission

Weight	Opal	
	Light	Solar
1800g/m ² (1.1mm)	70%	52%
2400g/m ² (1.5mm)	58%	49%
3660g/m ² (2.5mm)	47%	40%

Light and Solar transmission information is issued as a guide only and based on interpretation of natural exposure testing. Full test information is available from Alsynite Technical Catalogue see www.alsynite.co.nz

For Availability & Pricing Information: Contact your Formsteel Sales Centre: 0800 800 003



Formsteel™

FormClad®

Cladding and Roofing Systems



**Maximum building
protection for New Zealand
weather conditions.**

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