



STEEL ROOFING SPECIALISTS

PRODUCT SPECIFICATION MANUAL

NOTE: This document serves as a reference guideline. Refer to roofco.co.za for direct/project specific enquiries or updates/current info that can supersede any printed document (including this manual).

ABOUT US

Roofco is a family-managed sheet profiling business with over 35 years of experience in the industry.

Having established our first plant in Springfield Park, Durban, in 1983, Roofco has grown to become a widespread and reputable steel roofing supplier in South Africa.

Roofco aims to employ economies of scale to guarantee products of great value, as well as create an efficient business environment that supports our clients' fundamental needs in the fastest possible turnaround time.

Our business has been founded and managed based on the uncompromising core values of honesty and integrity. This has set the foundation for the business to grow innovatively and identify aligned clients as key stakeholders in the daily operations of the business.

PROJECT DEVELOPMENT

We strongly believe that one key principle of successful business within the construction industry is in-depth mechanical and technical knowledge. This allows us to push the technological application and implementation within our product designs, often resulting in creative and resourceful solutions to complex design problems.

To this end, we have a fully equipped machine shop attached to our factory, where we carry out our R&D. Our creativity and flair for design can be expressed and explored in our workshop.

Roofco offers full technical support services from all service centres.

CONTACT US

Feel free to get in touch with us now. One of our agents is ready to help you. Or visit one of our roofing centres, which are equipped to supply various types of roofing accessories to the public.

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PROJECTS

Throughout Africa, Roofco is involved in supply of quality products to some major landmark developments.

- Newlyn Group – Ashgate industrial
- Sumitomo – Newcastle
- Cornubia developments
- Gateway shopping mall
- Mr Price – Hammarsdale
- Takoradi development – Ghana
- Ballito Junction
- Phoenix Plaza
- Grindrod – Nacala
- BMW Northcliff Johannesburg
- Runway Park – Mobeni
- Zambian Breweries
- Makro Springfield extensions
- Mercedes Benz – Port Elizabeth
- Builders' Warehouse
- Durban international convention centre extensions
- Hirt & Carter
- Galleria Shopping mall
- Absto – Mozambique



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CONDITIONS OF USE & REGULATORY COMPLIANCE

By utilizing this Manual, you acknowledge that your use is governed by the terms and conditions set forth herein. Roofco Steel, including its directors, employees, and consultants, provides no warranties, expressed or implied, regarding the fitness of the information provided for any specific project or purpose.

The user assumes full responsibility for ensuring that all designs and installations comply with the National Building Regulations and Building Standards Act (Act 103 of 1977). It is the user's sole responsibility to verify that the application of these products meets the requirements of SANS 10400 (Parts A, B, and L) and SANS 10237 (Design and Installation of Roof Coverings). All structural considerations must align with SANS 10162 where applicable. Roofco Steel shall not be held liable for failures resulting from site-specific environmental factors, structural limitations, or installation errors. If any technical ambiguity exists, the user must seek professional clarification from a registered Competent Person (as defined by SANS 10400-A) before proceeding.

CONCEALED FIX SYSTEM

SURELOK 695®



The Surelok 695® roofing system employs a concealed fixing methodology. Designed for pitches as low as 2°, concealed fix systems depend on concealed clips that secure the roof sheets to the purlins without any fasteners penetrating the roof sheet. The concealed fix clips are placed over the male rib of the preceding sheet and are affixed to the purlins by wafer head fasteners. The female rib of the next sheet is mechanically engaged over the clip and the male rib of the preceding sheet, ensuring complete watertightness, even at minimal slopes. The concealed fix clips allow for unimpeded thermal expansion and contraction of the Surelok sheets during temperature fluctuations, making concealed fix ideal for long-span applications in industrial and commercial buildings. Surelok concealed fix sheets can be roll-formed to any practical, manageable lengths on site using a mobile roll forming mill.

Surelok 695® offers flexible ordering, available in virtually any length to meet specific project needs. For longer spans exceeding 13.2 meters, on-site rolling is advisable, considering site access and building configuration. A minimum roof pitch of 2° is required for Surelok 695® installations. It's worth noting that minor visual effects like clip-in marks or oil canning may sometimes occur, which are normal and do not compromise the sheet's structural integrity. Further explanation of this common characteristic can be found on page 42.

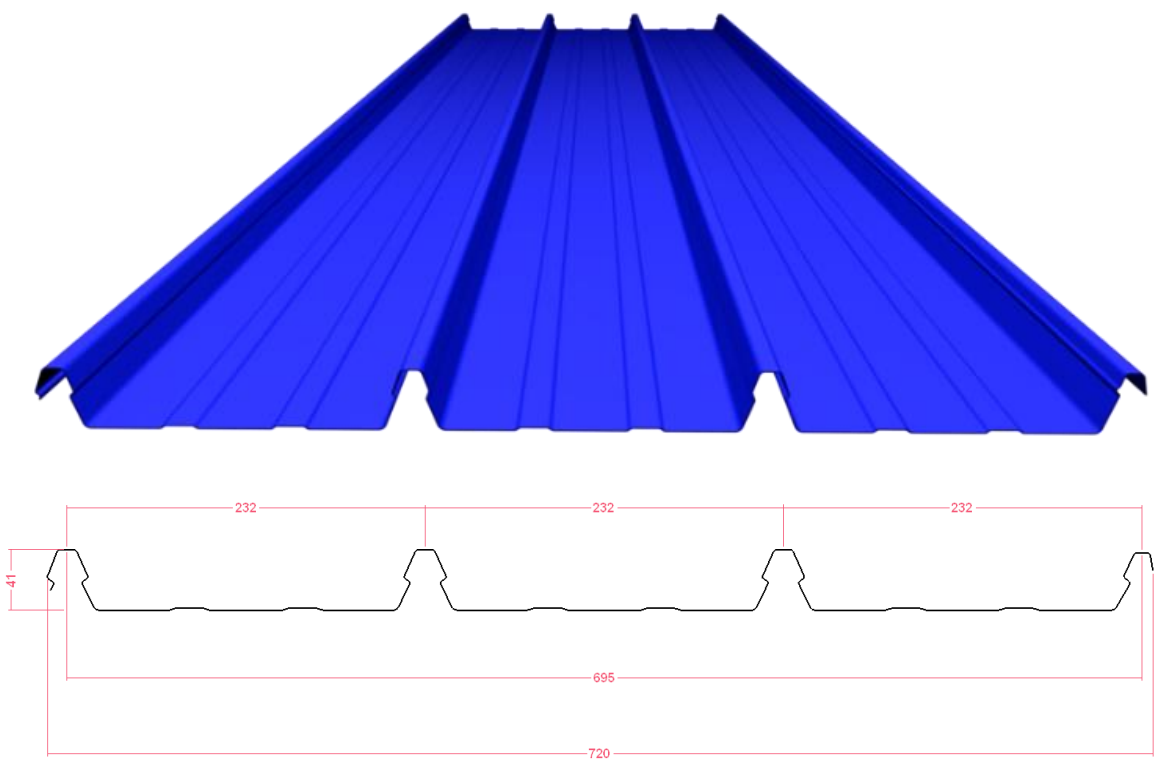


SURELOK 695® MATERIAL OPTIONS

Aluminium-Zinc Coated Steel	Gauge (mm)
AZ 100 / 150 / 200 Unpainted or pre-painted	0.47 0.48 0.50 0.53 0.54 0.58 0.80*
Aluminium	
Unpainted or pre-painted	0,8
Zinc Coated Steel	
Unpainted or pre-painted	0,5
Other gauges are available on special request. All materials are subject to availability. * Available in G275/ISQ300 only.	

SURELOK 695® SAMPLE SPECIFICATION

The roof sheeting shall be Surelok 695® 0.53mm thick G550 double-interlocking concealed fix roof sheeting with an AZ150 Aluminium-Zinc alloy coating to both sides and finished with pre-painted Colorsure C.1.S with a standard backing coat. The Surelok 695® shall be roll-formed in continuous lengths and is to be cut pneumatically. The Surelok 695® shall be affixed using Surelok 695® concealed fix clips, screw fixed to steel purlins secured by means of 6/no 10x16mm wafer head self-tapping screws, all in accordance with manufacturer’s recommendations. The profile shall be roll formed with 4 ribs and centres not exceeding 233mm and a cover width not exceeding 695mm. The male rib is to include spurs to ensure a double interlocking action with adjacent sheets. The minimum sheet depth will be 41mm. Two stiffening ribs are incorporated in each pan. A length variation range of +10mm and -0mm, and a width tolerance of ±3mm is permissible.



SURELOK 695® PURLIN SPACINGS

The maximum recommended spans detailed in this table are specific to the Surelok 695® profile under conditions limited to light foot traffic. The calculations assume a design load of 1.5kN downwards and a negative wind pressure of 2kPa. Additional information can be obtained by consulting Roofco’s Technical Department.

GAUGE	Gauge 0.47MM	Gauge 0.50MM	Gauge 0.53MM	Gauge 0.58MM
ROOF SHEETING	Surelok 695	Surelok 695	Surelok 695	Surelok 695
Single Span	1400	1500	1700	1900
End Span	1500	1600	1800	2000
Internal Span/Double Span	1900	2200	2300	2500
Cantilever	150	200	200	250
SIDE CLADDING	Surelok 695	Surelok 695	Surelok 695	Surelok 695
End Span	2200	2300	2500	2700
Internal Span	2400	2500	2700	2900
Cantilever	150	200	200	250
Approximate Mass (kg/m2)	4.61	5.01	5.31	5.81

This span table applies only to inaccessible roofs, considering temporary gravitational loads during installation and maintenance. Control foot traffic during installation: move across the slope directly above purlins and limit up-slope movement to the profile pans. Minimize activity on critical end spans. For maintenance, restrict personnel movement exclusively to dedicated walkways and landings. Designs requiring spans beyond this table must be referred to Roofco’s Technical Department for review. Note: 0.80mm Aluminium-Zinc coated steel is supplied in G275 grade.

SURELOK 695® DRAINAGE TABLE

The values in the table represent the maximum recommended roof sheet length in meters for the given rainfall intensity and slope (pitch).

DRAINAGE TABLE	Roof Slope 2°	Roof Slope 3°	Roof Slope 4°
Max Rainfall (MM/H)	Maximum roof sheet length	Maximum roof sheet length	Maximum roof sheet length
150	169	207	268
200	127	155	201
250	100	124	161
300	85	104	134
350	72	89	115
400	63	78	100
500	51	62	80

Note: Anti-Gravity Fixing. To prevent vertical sheet movement, all concealed-fix side cladding must be pierce-fixed at the head of the sheet. For longer sheet lengths, additional intermediate pierced fixing may be required; consult the Structural Engineer for guidance. Secure cladding through the pan of the profile using #12 x 25mm Surefix™ fasteners

SURELOK 695® FASTENER GUIDELINES

If insulation is being installed over purlin, it may be necessary to use longer fasteners than specified below. The required increase in length will depend on the thickness and density of both the insulation and any packers used. Ensure that, once tightened:

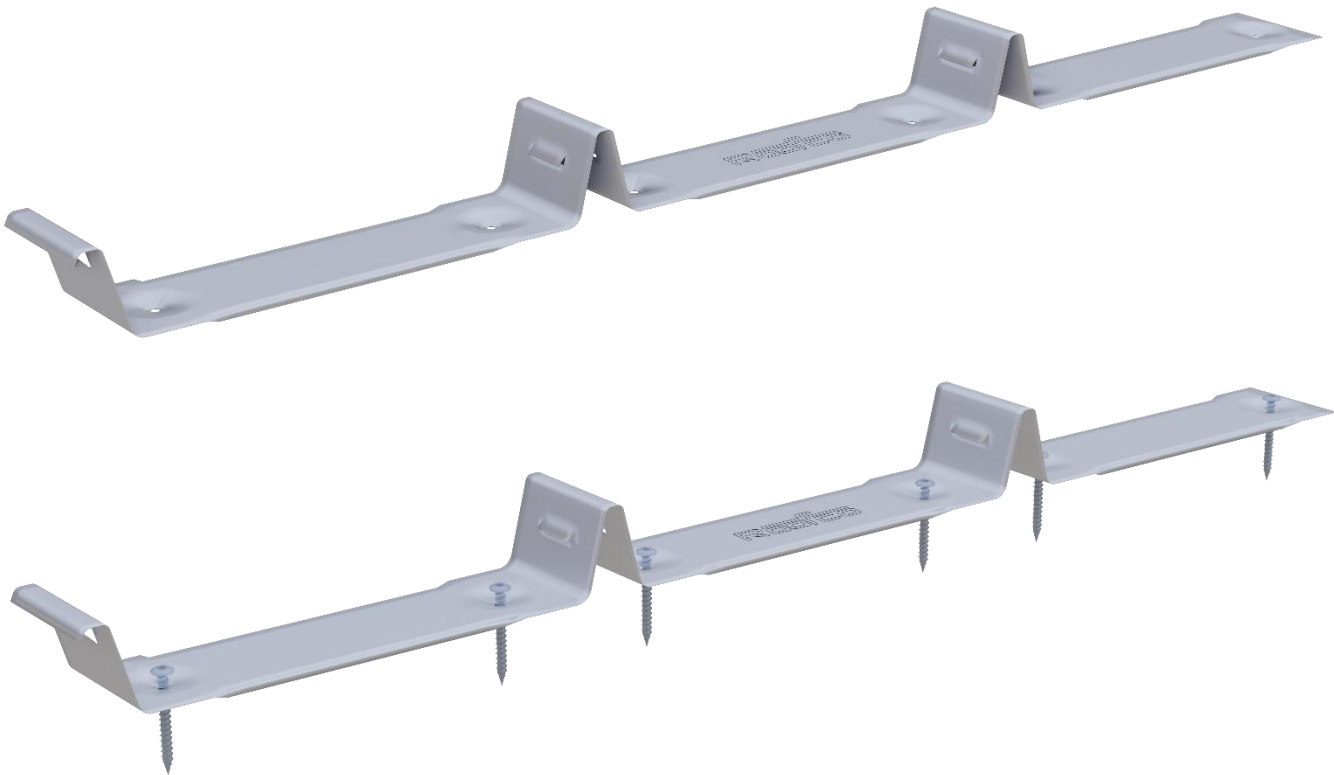
- When fixing into metal purlins, a minimum of three threads of the fastener extends beyond the purlin.
- When fixing into timber, the fastener penetrates the timber by at least 30mm.

Substrate	Application	Fastener Type
Steel	Roof	#10 x 22mm wafer head metal fastener
Timber	Roof	#10 x 45mm wafer head timber fastener
Steel	Flashings	#14 x 22mm hex stitching fastener

SURELOK 695® CONCEALED FIX CLIPS

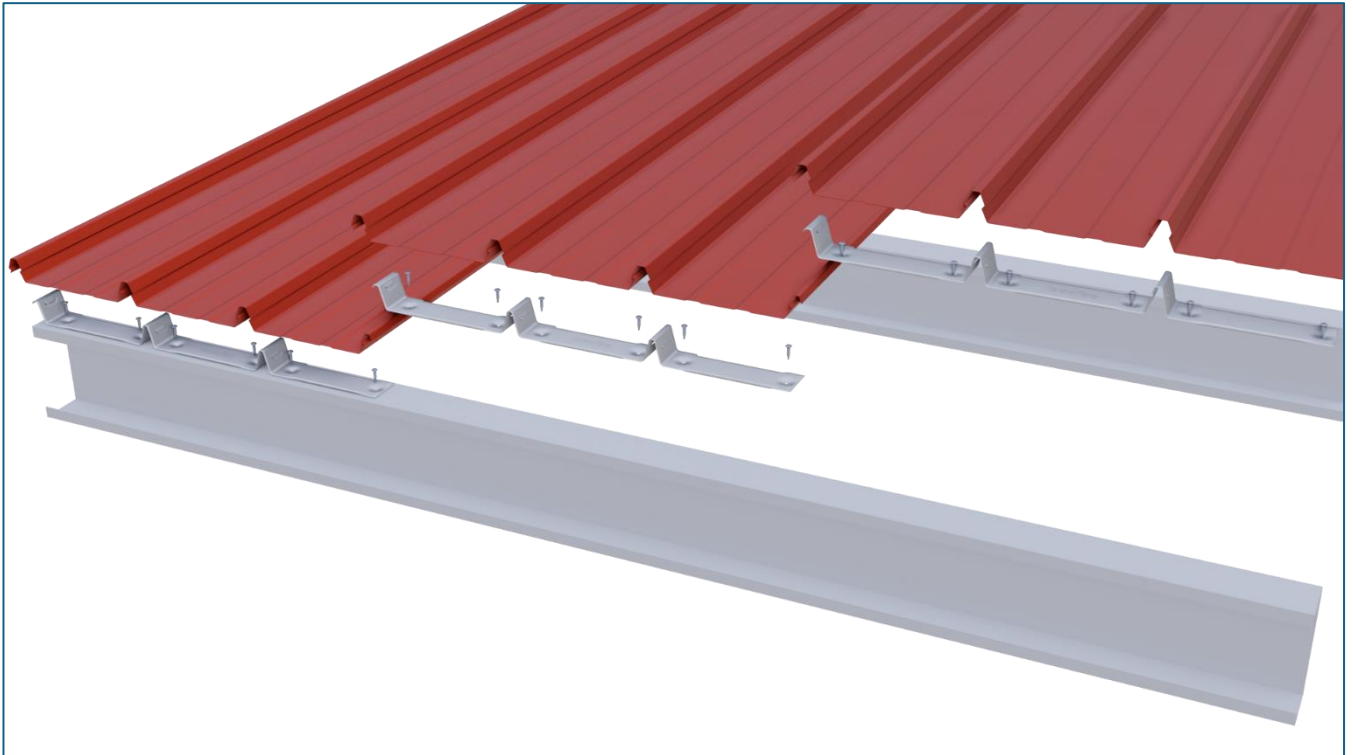
Engineered for reliable performance, the Surelok 695® Clip features a fully interlocking design with twin anchors gripping the inner ribs and a dual-action gooseneck for positive male-female joint retention. It is essential that the male rib is directly engaged to the supporting spur below the gooseneck.

- The anchor unit's geometry is specifically designed by engineers for optimal performance under high wind loads and foot traffic.
- Negative wind uplift load tests confirm the clip's excellent hold-down capability.
- Constructed from compatible 1.2 mm Aluminium-Zinc coated steel throughout.
- The unique upward spur below the gooseneck ensures complete engagement with the male rib joint.
- Stiffening downturns on the lateral edges of the base plate significantly increase strength.
- Six fastening locations provide secure attachment.



SURELOK 695® INSTALLATION GUIDELINES

1. Initial Clip Installation: Begin by positioning the first row of clips, aligning them with the female rib of the first sheet. Secure each clip at all designated fastening points.
2. First Sheet Placement: Lay the first sheet onto the installed clips, starting from the eave. Engage the sheet by first interlocking the anchors with the clips, then ensuring the female rib firmly clasps over the gooseneck of the clip.
3. Subsequent Clip Installation: For the next row, engage the gooseneck of each clip over the male rib of the previously installed sheet. Fasten each clip at all fastening points. Ensure the leading male edge has sufficient support during this process. This may involve slightly lifting the male rib or rotating the clip. Repeat from step 2 for subsequent sheets.



SURELOK 695® SPECIALISED FIXING ACCESSORIES

POLYCARBONATE AND HIGH WIND LOAD INSTALLATION

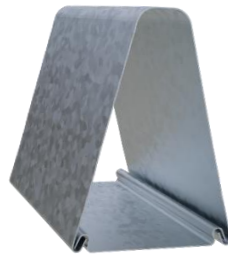
Overhangs are susceptible to increased wind pressure and represent a potential weak point in any roof structure. All overhangs exceeding 600mm must be positively fixed using a high wind load slider clips and/or saddle washers, ensuring allowance for thermal movement. This includes structures such as canopies, walkways, lean-to roofs, loading bays, and decorative roofs.

SURELOK 695® HIGH WIND LOAD INSTALLATION COMPONENTS

Surelok 695® Saddle Washers: The saddle washer is designed to work in conjunction with the high wind load slider clips to securely fasten both polycarbonate and steel sheeting to the slider clip while still allowing for thermal movement. These saddle washers feature a cold-bonded 3mm Ethylene Vinyl Acetate (EVA) seal that effectively prevents water from entering through the fastener hole.

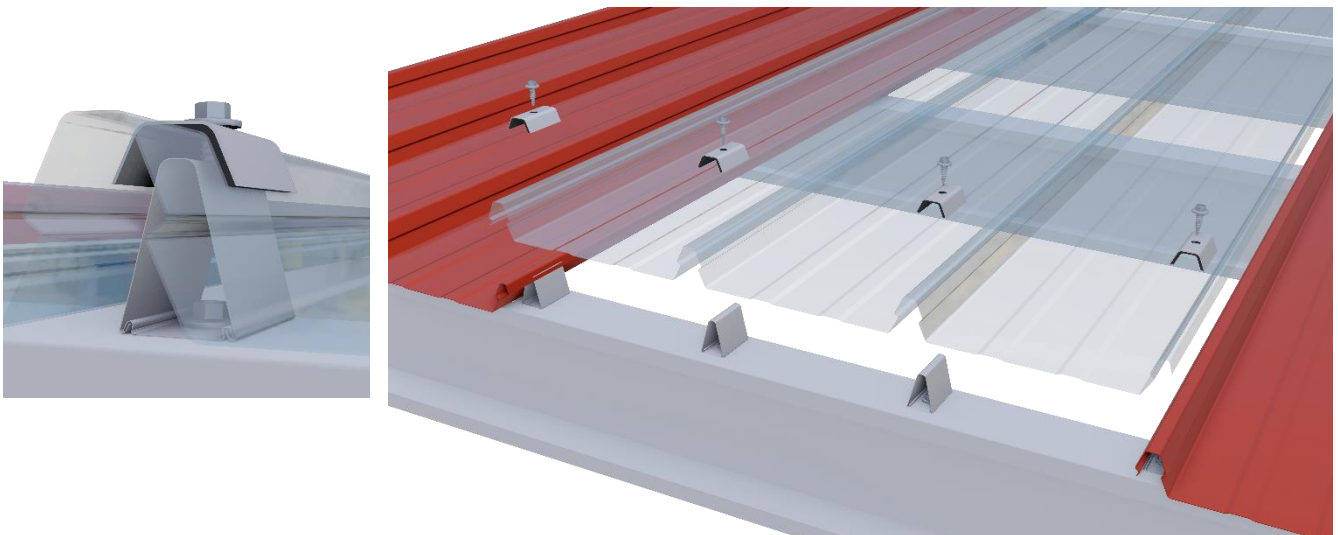


Surelok 695® high wind load slider clip has two main components: a baseplate and a slider bracket manufactured from Aluminium-Zinc coated steel.



SURELOK 695® HIGH WIND LOAD INSTALLATION GUIDELINES

1. Begin by aligning the first row of high wind load slider clip baseplates. Secure them by fastening through the pre-drilled holes at the three slider bracket attachment points.
2. Attach the slider brackets to the base plate. Then, position the first sheet over these slider brackets.
3. Position the saddle washers over the first three ribs above the purlin. Secure the saddle washers by fastening through the ribs into the slider brackets.
4. Position and fasten the next row of baseplates. Overlap the end fastening points to ensure self-alignment of the baseplate row. Repeat the process from step 2.



SURELOK 695® FLASHING INSTALLATION GUIDELINES

Flashings shall be to Roofco Steel specifications and fixed to the sheeting with fixing angles or specialized flashing brackets to obviate any direct fixing perforations. For sealed joints use fasteners or rivets and neutral-cure silicone sealant branded as suitable for use with AZ steel. Roofco recommends the use of flashing slider brackets for long sheets. Please consult the table below.

STEEL		
Sheet length (m)	Transverse Flashings (Ridge, Apex, Headwall etc.)	Longitudinal Flashings (Barge, Sidewall, Soaker etc.)
Less than 30m	Fixing Angle (Internal ribs only)	Fixing Angle (Every 500mm) or Transverse Fixing Angle
Greater than 30m	Two-Piece Slider (Internal ribs only)	Clip-on Slider (Every 500mm)
ALUMINIUM or BULLNOSED		
Sheet length (m)	Transverse Flashings (Ridge, Apex, Headwall etc.)	Longitudinal Flashings (Barge, Sidewall, Soaker etc.)
Less than 15m	Fixing Angle (Internal ribs only)	Fixing Angle (Every 500mm)
Greater than 15m	Two-Piece Slider (Internal ribs only)	Clip-on Slider (Every 500mm)

SURELOK 695® STARTER BRACKETS

The Surelok 695® starter bracket is used to secure the first and/or last rib of the edge sheet without restricting thermal expansion. Starter brackets are available in Aluminium-Zinc alloy coated steel.

SURELOK 695® FIXING ANGLES or STATIC FLASHING BRACKETS

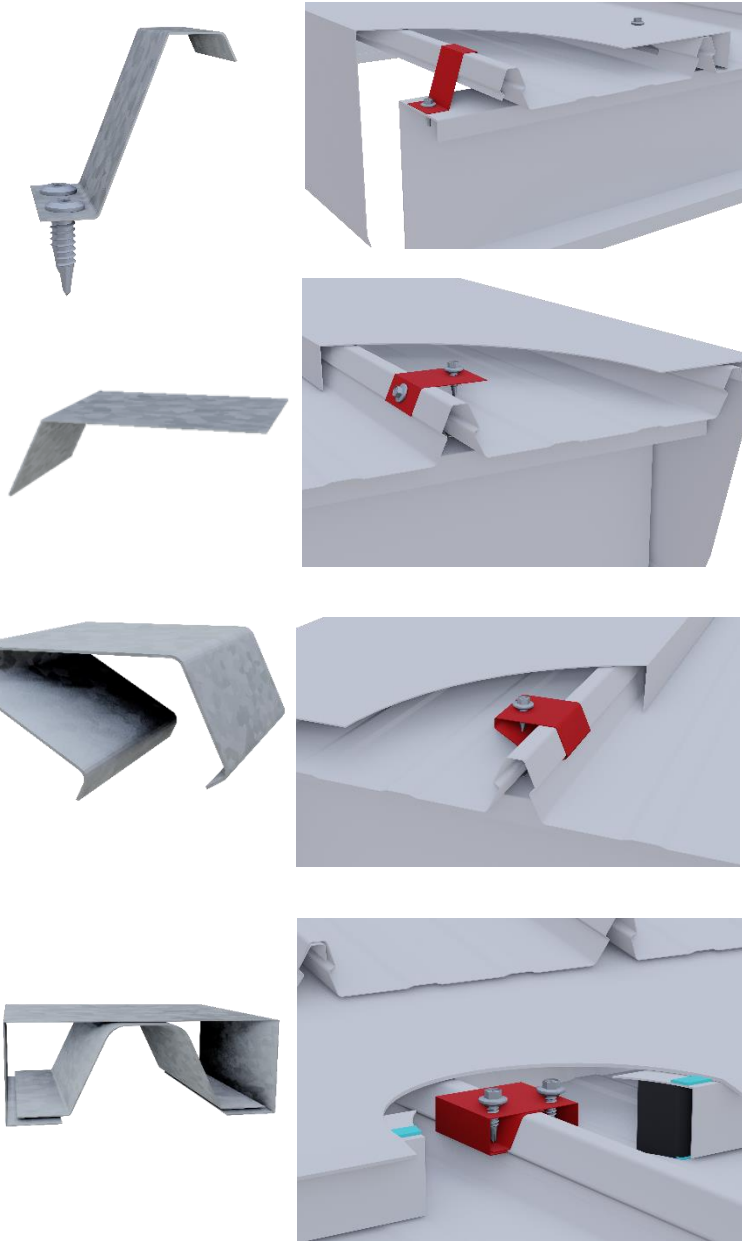
Fixing angles or flashing brackets are used as an intermediate anchoring mechanism for flashings, thereby eliminating direct penetration. Fixing angles are manufactured from the same material as the flashings or alternatively the static flashing brackets are available in Aluminium-Zinc alloy coated steel

SURELOK 695® CLIP-ON SLIDER FOR FLASHINGS

The clip-on slider clips onto the rib of the Surelok 695® profile to fix longitudinal flashings (barge, sidewall) to the sheeting without the need for fasteners piercing the sheet. The clip-on slider will allow for more thermal expansion than the fixing angle or static flashing bracket. Clips are available in Aluminium-Zinc alloy coated steel.

SURELOK 695® 2-PIECE SLIDER FOR FLASHINGS

The 2-piece sliders are used to fix transverse flashings (apex, ridge, headwall) to the sheeting without drilling directly into the sheet. This bracket will allow for up to 50mm of thermal expansion. Due to thermal expansion and contraction, the first sheet should never be positively fixed to the structure. Sliders are available in Aluminium-Zinc alloy coated steel.



SURELOK 695® LIPPING AND BENDING

The bending tool is used to bend the pan up on the high end of the Surelok 695® sheet to create a water barrier (also known as the tanking or turning up of the sheet). The lipping tool is used on the eave end of the Surelok 695® sheet to create a turned down lip (also known as the lipping or turning down of the sheet).



SURELOK 695® PENETRATIONS

Protrusions such as pipes, ducts and the like shall be adequately flashed where they pass through the sheeting surface. Where ribs must be cut away to permit penetration, additional framing is to be installed as required to support the sheeting. Depending on the position of the penetration through the roof, special attention shall be given to back flashing the sheeting to the ridge or high point of water entry. In all cases, all cutting and flashings shall be so arranged that adequate provision is made for the drainage of all troughs and corrugations.

SURELOK 695® CRANKING

Surelok 695® sheets can be cranked and bullnosed but not reverse cranked. The minimum radius is 450mm. On-site cranking is available on request.

SURELOK 695® CURVING

For the Surelok 695® profile natural springing occurs at a 36m radius in the convex and at a 60m radius in the concave. It is important to reduce purlin spacings by 20% when spring curving a roof. Oil canning may be expected. For Surelok 695® installations involving springing or draping, the integration of saddle washers and high wind load clips at the eave is strongly advised.

SURELOK 695® TRANSPORTING, HANDLING & STORAGE

The contractor shall ensure that all materials used on site for roofing/cladding, be transported, handled and stored in accordance with the manufacturer's recommendations. To keep the product dry and clear of the ground. If stacked or bundled product becomes wet, to separate it, wipe it with a clean cloth to dry thoroughly. To handle materials carefully to avoid damage, not drag materials over rough surfaces nor each other, not to drag tools over material and protect from swarf. Material damaged shall be rejected and replaced with undamaged material at the contractor's expense. Repair of damaged material will not generally be permitted. Rates are to include for preventing damage and protecting sheets through all stages of construction.

SURELOK 695® ROLLING STRAIGHT ONTO A ROOF

It is possible to roll-form straight onto a roof using a scaffold ramp. The limitations are the building height and space needed to roll. A departure angle of 10° is the maximum allowed at any time. A greater angle would damage the sheet when leaving the mill and again when bending to settle onto the roof.

SURELOK 695® INSPECTION PRIOR TO INSTALLATION

Before commencing installation, the contractor shall verify that the following items have been checked and accepted: Please refer to the required roof structure tolerances outlined on page 14 of this document.

1. The entire structure or the portion thereof to be sheeted has been correctly aligned, levelled and grouted.
2. Purlins and girts are at the correct spacing and are within the specified tolerances.
3. The corners of the roof are square, and the wall framework is perpendicular or as specified.
4. No protrusions such as bolt heads, splice plates, cleats, etc. appear on the face of the framework.
5. All members to which roofing and cladding are to be fixed in aesthetically sensitive areas are true and square.
6. Paint and any other materials that may be incompatible with the sheeting, have been painted over or so dealt with that direct contact with the sheeting is avoided.
7. The contact faces between the purlins or the girts and the cladding are in the same plane. Should the alignment be inadequate, the contractor shall request instructions from the engineer before proceeding with the fixing of the cladding.

SURELOK 695® SAFETY

The contractor shall exercise special care when handling long length sheeting, particularly in windy conditions. Should work be interrupted for any reason, all loose sheeting and incomplete sections must be adequately secured against possible movement by wind and gravity.

SURELOK 695® INSTALLATION HANDLING & PRECAUTIONS

Every precaution shall be taken to prevent damage to roof sheets during all stages of construction. Duck boards should be used when necessary to protect the sheeting from damage. Sheeting which has become deformed or damaged in any way should be replaced. Care shall be taken to ensure that no sheeting or flashing will be cut with abrasive disc on roof surfaces to prevent steel particles from penetrating coated surfaces.

SURELOK 695® HOUSEKEEPING

All debris, swarf, etc. arising from the fixing of the cladding shall be removed from the sheeting as the fixing progresses. In addition, off-cuts of insulation, surplus fasteners, sealants, mandrels from pop rivets, off-cuts of sheeting, surplus flashing, food packaging, cartons, bottles, cans, etc. shall not be left on the roof or in the gutters. Care shall be taken to ensure that no such material enters, blocks or partially impedes the flow of water into the outlets, down pipes, etc.

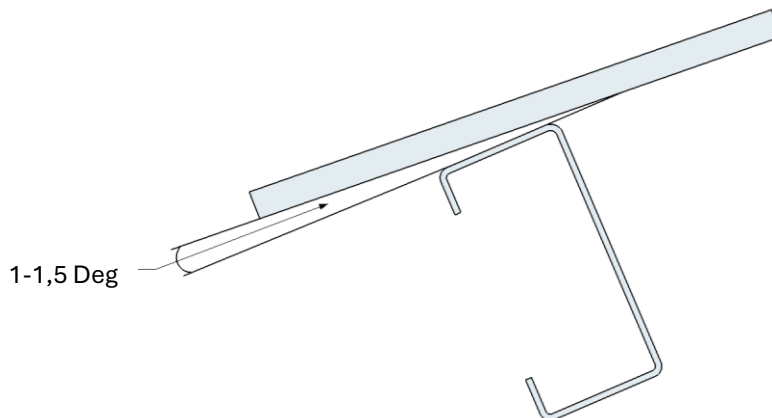
SURELOK 695® IMPORTANT NOTES

1. To prevent potential issues such as coating damage, water leakage through capillary action, corrosion, and damage to the clipping mechanism, end lapping of concealed fix profiles in the same plane is discouraged due to their specific geometric design.
2. When using Surelok 695® as side cladding, installing all sheets in the same orientation is recommended. Inconsistent orientation may result in noticeable visual variations in the paint finish due to sunlight reflection. The "dot matrix" branding on the backing coat, which appears at regular intervals, can serve as a useful on-site reference for maintaining consistent sheet direction.
3. To prevent gravitational movement in concealed fix side cladding, pierce fixing at the top of the sheets is mandatory. For extended sheet lengths, it may be necessary to incorporate internal pierce fixings, subject to the Structural Engineer's advice. Ensure all cladding is fixed within the sheet pan using #12x25mm Surefix™ fasteners.
4. For installations involving aluminum sheeting and galvanized steel purlins, it is recommended to use an isolation tape or similar. This prevents the electrochemical reaction known as galvanic corrosion that occurs when these dissimilar metals are in direct contact, which can shorten the lifespan of the aluminum.
5. When installing any polycarbonate sheets (including in-plane applications) with Roofco roofing or cladding profiles, adherence to the guidelines outlined in SANS 10237:2023 (Annexure C Roof Lights) is mandatory.
6. Please note that the system performance warranty is contingent upon the installation being performed by a Roofco Approved Roofing Contractor and successful inspection of the completed project by Roofco.

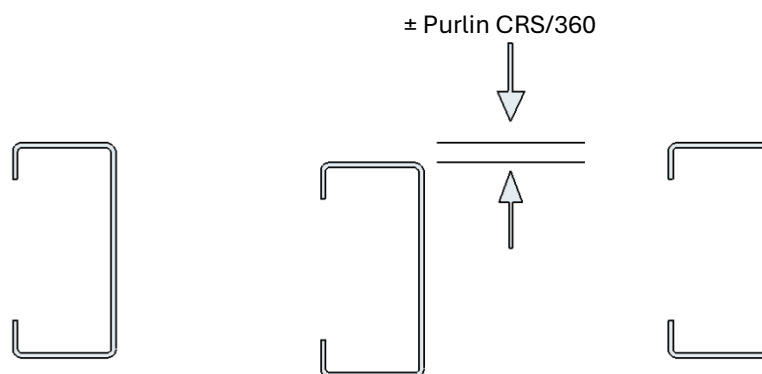
SURELOK 695® REQUIRED ROOF STRUCTURE TOLERANCES

To ensure system functionality and performance, the following structural support criteria should be adhered to:

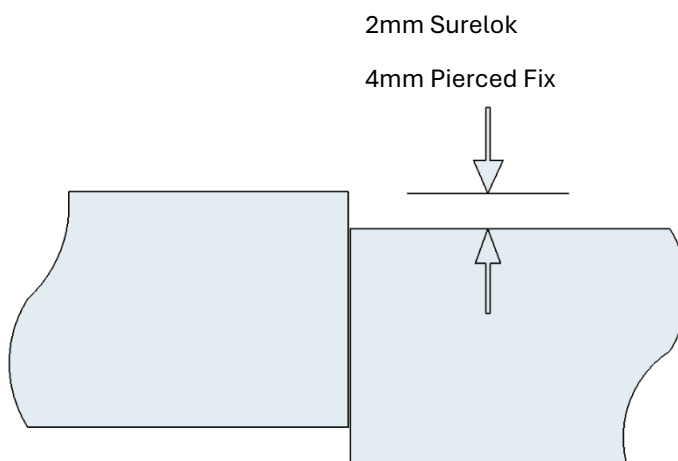
PURLIN ROTATION: - Maximum purlin rotation 1.5°



PURLIN PLANE ALIGNMENT: Purlin plane alignment a maximum of purlin centres/360. In a case of varying purlin centres the deviation is to be restricted to the lessor of this calculation.



TRANSVERSE PURLIN ALIGNMENT: Adjacent purlin alignment at the rafter connection point should be $\leq 2\text{mm}$



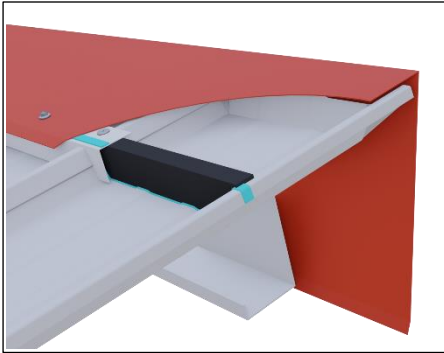
Clip/cleat alignment within 1° referenced to the sheeting longitudinal axis. Lateral deflection of purlins (sagging) between rafter should be limited to a maximum of 20mm.

SURELOK 695® FLASHINGS AND CLOSURES

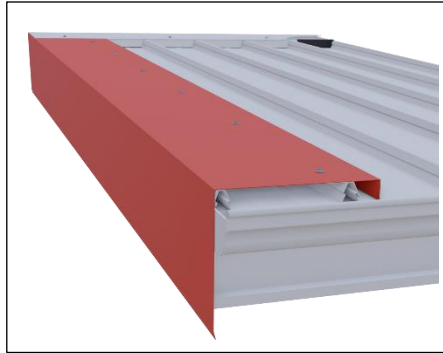
Roof flashings and closures are designed for specific uses and placements on a roof, featuring variations to accommodate the specified roofing profile and conditions. Typically, flashings are fabricated from the same material as the roofing to ensure a colour match, though complementary or matching colours can be selected if needed. For industrial and commercial buildings, flashings prioritize functionality over appearance. Roofco Steel offers a selection of standard flashings to meet these practical needs. In contrast, residential flashings often play a significant aesthetic role, often requiring bespoke designs suited to the specific buildings' requirements. Roofco Steel have the capability to manufacture bespoke flashings for both residential and commercial uses; please contact your local branch to learn more.

Longitudinal flashings are to be fastened at 500mm centres. Flashings are to be lapped at a minimum 150mm for roof flashings and at 100mm for side cladding. Flashings laps to be sealed using a suitable butyl product or neutral cure Silicone.

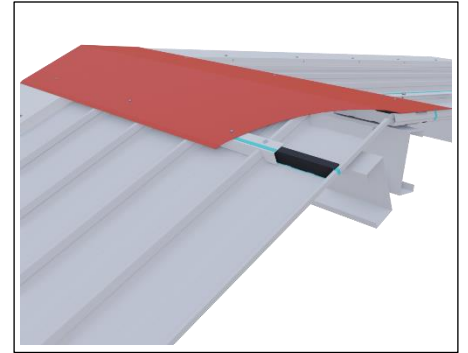
APEX FLASHING



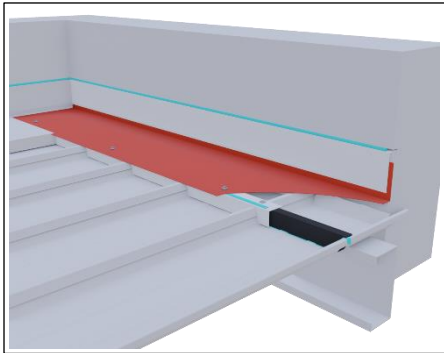
BARGE FLASHING



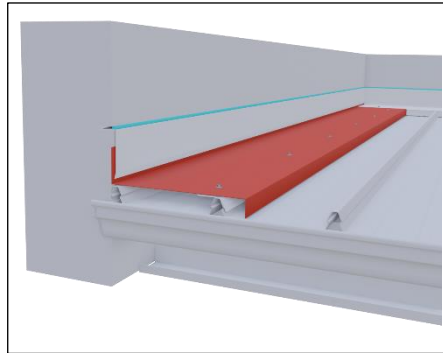
RIDGE FLASHING



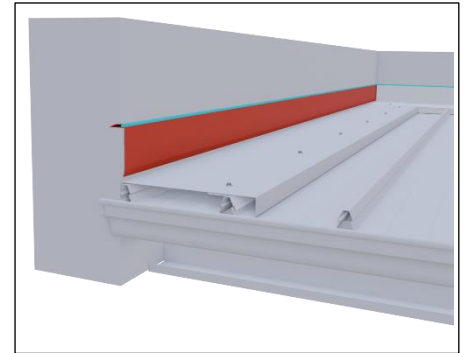
HEADWALL FLASHING



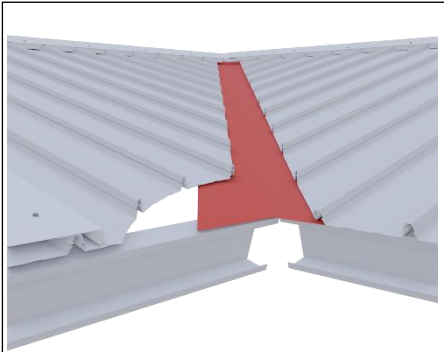
SIDEWALL FLASHING



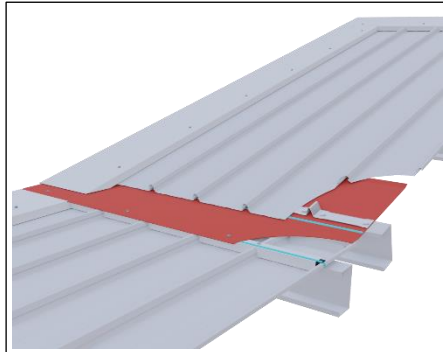
COUNTER FLASHING



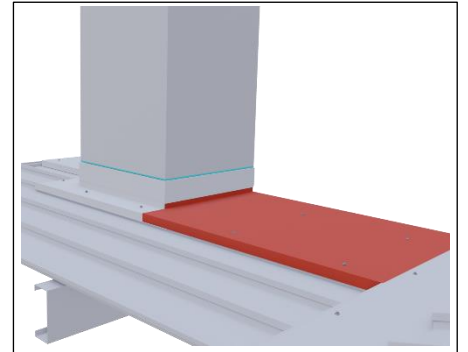
VALLEY FLASHING



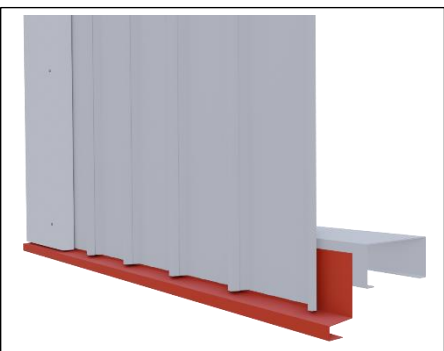
APRON FLASHING



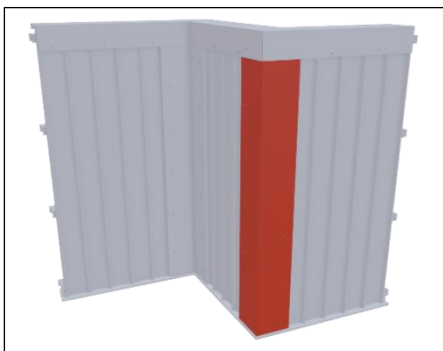
SOAKER FLASHING



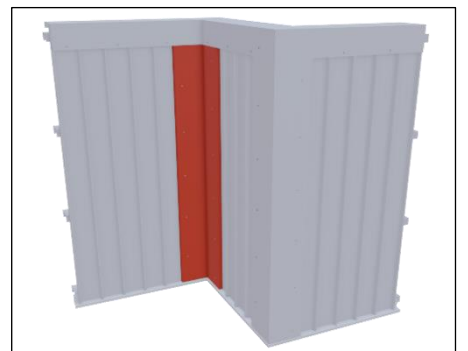
DRIP FLASHING



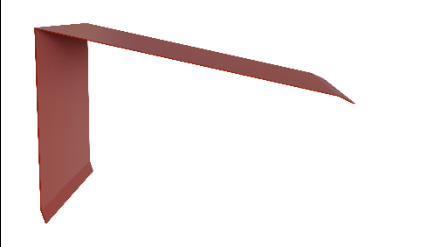
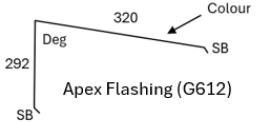
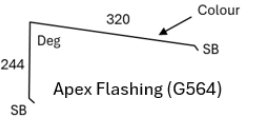
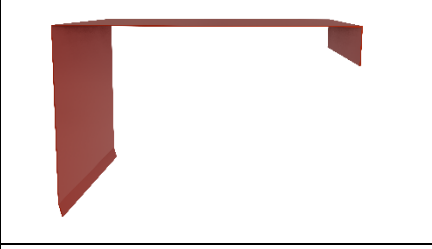
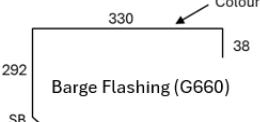
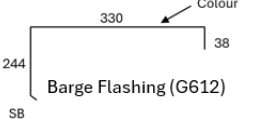
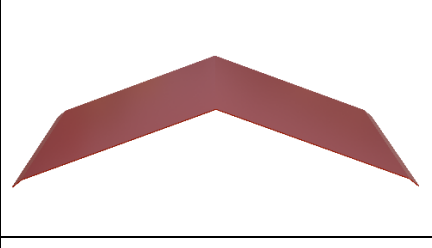
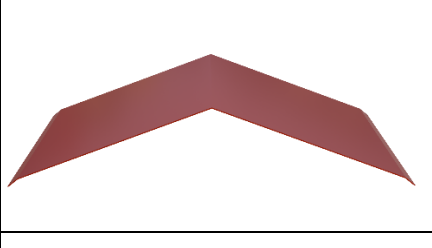
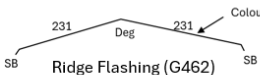
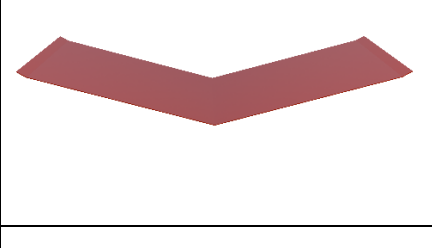
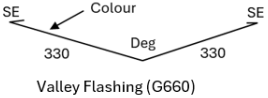
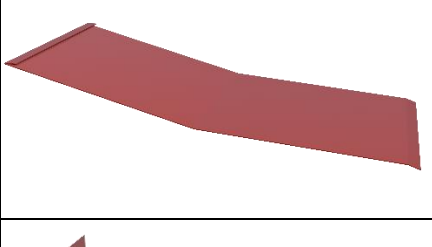
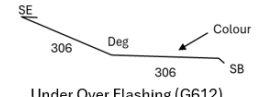
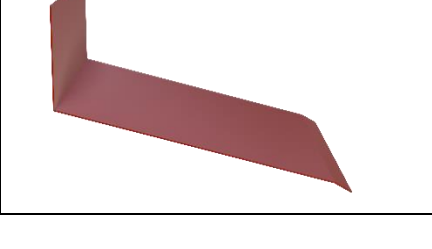
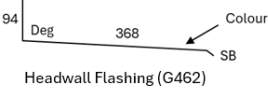
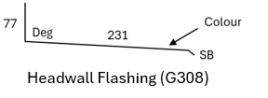
EXTERNAL CORNER FLASHING



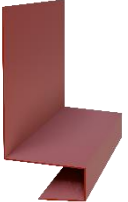
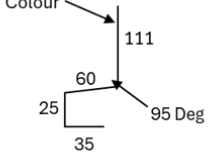
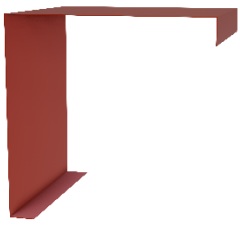
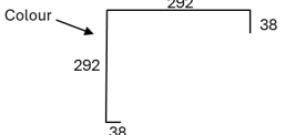
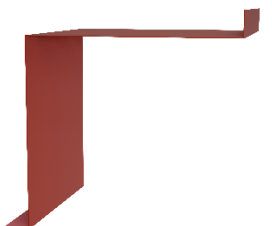
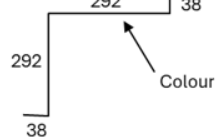
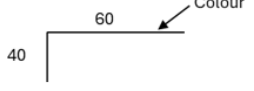
INTERNAL CORNER FLASHING



CONCEALED FIX FLASHINGS

APEX FLASHING		 
BARGE FLASHING		 
RIDGE FLASHING		 
HIP FLASHING		 
VALLEY FLASHING		 
APRON FLASHING (UNDER/OVER)		 
HEADWALL FLASHING		 

CONCEALED FIX FLASHINGS (Continued)

SIDEWALL FLASHING		 Sidewall Flashing (G462)
COUNTER FLASHING		 Counter Flashing (G185)
DRIP FLASHING		 Drip Flashing (G231)
EXTERNAL CORNER FLASHING		 External Corner Flashing (G660)
INTERNAL CORNER FLASHING		 Internal Corner Flashing (G660)
CLOSER ANGLE		 Hip Closer Flashing (G100)

Note 3: SB = Stiffener bend is 15mm included at 15°, unless otherwise stated.

PIERCED FIX ROOFING SYSTEMS

Pierce-fixed steel roofing (also known as exposed-fastener or screw-fix roofing) is a traditional and widely used method of securing metal roof sheets to a building's structure. Unlike concealed-fix systems that use hidden clips, this system relies on fasteners that penetrate directly through the metal sheet and into the underlying purlins.

The defining feature of this system is the puncturing of the roof sheet.

Fasteners: Typically, self-drilling screws (such as Surefix™) equipped with an EPDM cut washer. These cut washers are compressed during installation to create a watertight seal around the hole.

Fixing Point: For roofing, fasteners are almost always driven through the crest (the high point of the profile). This ensures that water running down the "pans" or "valleys" of the sheet does not come into direct contact with the fastener hole, minimizing leak risks.

For Walling/Cladding: Fasteners can be driven through the pans (valleys) for a flusher aesthetic, as vertical water runoff is faster and less likely to collect around the screw.



CORRUGATED

Featuring a classic sinusoidal shape, our corrugated profile is a versatile solution for both roofing and wall cladding. With a heritage dating back to the Victorian era, it remains the world’s most recognizable sheeting profile. Its enduring popularity over more than a century is a testament to its practical design and reliable performance.



CORRUGATED MATERIAL OPTIONS

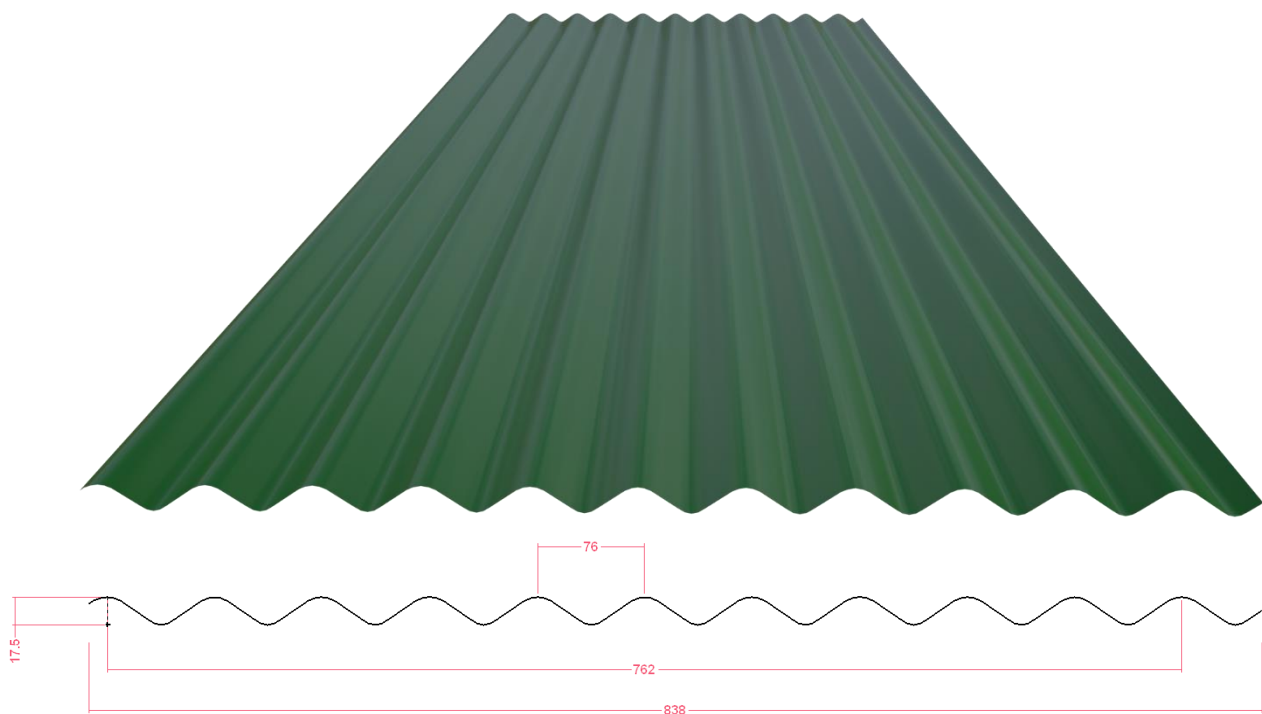
Aluminium-Zinc Coated Steel	Gauge (mm)
AZ 100 / 150 / 200 Unpainted or pre-painted	0.47 0.48 0.50 0.53 0.54 0.58 0.80*
Aluminium	
Unpainted or pre-painted	0,8
Zinc Coated Steel	
Unpainted or pre-painted	0,5
Other gauges are available on special request. All materials are subject to availability. * Available in G275/ISQ300 only.	

CORRUGATED SAMPLE SPECIFICATION

Roofco Corrugated Sheeting: 0.47mm thick AZ150 Aluzinc® sinusoidal profile, manufactured by Roofco Steel. The profile shall feature 10.5 crests at 76mm centers, providing an effective cover width of 762mm and a crest height of 17.5mm.

Installation: Sheets to be crest-fixed to timber purlins using Class 4 #12 x 65mm Surefix™ hex-head self-drilling fasteners with low carbon EPDM washers. Purlin spacing: 1200mm centers (intermediate) and 900mm centers (ridge and eaves). In compliance with SANS 10400-L:2020, all side and end laps must be sealed using an approved butyl product or neutral cure silicone.

Fixing frequency: 3 fasteners per sheet at intermediate purlins and every crest at eave, ridge, and apex purlins, strictly in accordance with Roofco Steel’s recommendations.



CORRUGATED PURLIN SPACINGS

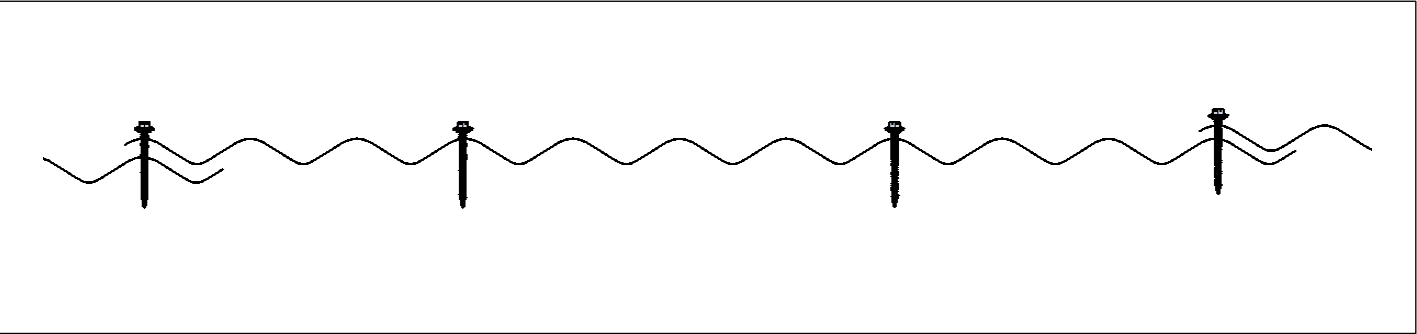
The maximum recommended spans detailed in this table are specific to the Corrugated profile under conditions limited to light foot traffic. The calculations assume a design load of 1.5kN downwards and a negative wind pressure of 2kPa. Additional information can be obtained by consulting Roofco’s Technical Department.

	Gauge 0.47mm	Gauge 0.50mm	Gauge 0.53mm	Gauge 0.58mm
GAUGE	Aluminium-Zinc Coated Steel	Aluminium-Zinc Coated Steel	Aluminium-Zinc Coated Steel	Aluminium-Zinc Coated Steel
ROOF SHEETING	Corrugated	Corrugated	Corrugated	Corrugated
Single Span	600	650	750	800
End Span	900	950	1050	1100
Internal Span	1200	1250	1350	1400
Cantilever	100	100	150	150
SIDE CLADDING	Corrugated	Corrugated	Corrugated	Corrugated
End Span	1000	1200	1500	1700
Internal Span	1500	1700	2000	2200
Cantilever	200	200	250	250
Approximate Mass (kg/m2)	4.32	4.6	4.88	5.31

This span table applies only to inaccessible roofs, considering temporary gravitational loads during installation and maintenance. Control foot traffic during installation: move across the slope directly above purlins and limit up-slope movement to the profile pans. Minimize activity on critical end spans. For maintenance, restrict personnel movement exclusively to dedicated walkways and landings. Designs requiring spans beyond this table must be referred to Roofco’s Technical Department for review. Note: 0.80mm Aluminium-Zinc coated steel is supplied in G275 grade.

CORRUGATED FIXING GUIDE

Corrugated sheeting is a pierce-fixed system suitable for timber or steel supports. Fasteners must be driven through the roof sheet perpendicular to the profile and centered on the crests. 3/no fasteners per sheet at intermediate purlins and 1/no fastener at every crest along eave, ridge, and apex purlins. In certain applications it is recommended to stitch side laps at 500mm centers using #14 x 22mm metal stitching fasteners. In compliance with SANS 10400-L:2020, all side and end laps must be sealed using an approved butyl product or neutral cure silicone. For comprehensive fixing guidelines, refer to the Surefix™ fastener guidelines (page 35).



FASTENER GUIDELINE

CORRUGATED SHEETING		
PURLIN TYPE	ROOF	SIDE CLADDING
Steel	SF4,LS38,HWF, 12-14,FT,#3,EPDM CW	SF4,LS25,HWF, 12-14,FT,#3,EPDM CW
Timber	SF4,TF65, HWF, 12-9, DT, T17, EPDM CW	SF4, TF50, HWF, 12-9, DT, T17, EPDM CW
FLASHINGS		
	SF4, ST22, HWF, 14-14, TT, #1, EPDM CW	SF4, ST22, HWF, 14-14, TT, #1, EPDM CW

ROOF PITCH AND SHEET LENGTHS

When using corrugated sheeting the recommended minimum roof slope (pitch) for sheets more than 15m is 15°, and for sheets less than 15m the minimum roof slope is 10°.

DIMENSIONAL TOLERANCES

A length variation range of +10mm or -0mm, and a width tolerance of ±5mm is permissible. This applies to straight sheet lengths only.

IBR

Inverted Box Rib (IBR) is a bold, trapezoidal fluted profile that combines aesthetic appeal with high-performance functionality. Since its South African debut in 1958, IBR has established itself as the industry standard for commercial and industrial construction. Its deep, wide channels provide superior drainage, while its structural design offers an optimal balance between load-bearing capacity and cost-efficiency. To ensure a sleek finish, the profile includes stiffening ribs that prevent "oil canning" (surface waving). Highly versatile, IBR can be factory-cranked, curved, or bullnosed to meet diverse architectural requirements.



IBR MATERIAL OPTIONS

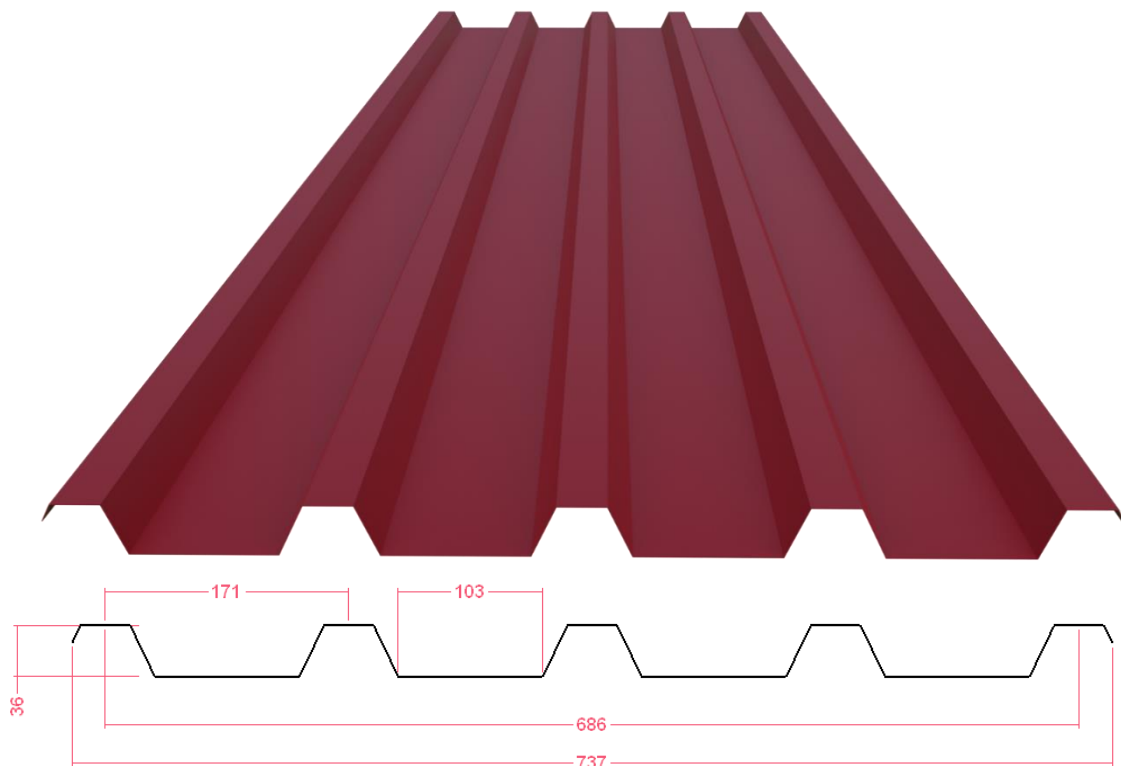
Aluminium-Zinc Coated Steel	Gauge (mm)
AZ 100 / 150 / 200 Unpainted or pre-painted	0.47 0.48 0.50 0.53 0.54 0.58 0.80*
Aluminium	
Unpainted or pre-painted	0,8
Zinc Coated Steel	
Unpainted or pre-painted	0,5
Other gauges are available on special request. All materials are subject to availability. * Available in G275/ISQ300 only.	

IBR SAMPLE SPECIFICATION

Roofco IBR Sheeting: 0.47mm thick AZ150 Aluzinc® IBR profile. The profile is to be roll-formed with five trapezoidal ribs spaced at 171mm centres, providing an effective cover width of 686mm. Rib height shall be 36.5mm, and all installation must strictly adhere to the manufacturer’s technical specifications and recommendations.

Installation: Sheets to be crest-fixed to steel purlins using Class 4 #12 x 65mm Surefix™ self-drilling fasteners with low carbon EPDM washers. Purlin spacing: 1800mm centers (intermediate) and 1500mm centers (perimeter). In compliance with SANS 10400-L:2020, all side and end laps must be sealed using an approved butyl product or neutral cure silicone.

Fixing frequency: At every second crest, at intermediate purlins and at every crest along eave, ridge & apex purlins, strictly in accordance with Roofco Steel’s recommendations. Side laps to be stitched at 500mm centres between purlins with a #14 x 22mm metal stitching fastener, in accordance with manufacturer’s recommendations.



IBR PURLIN SPACINGS

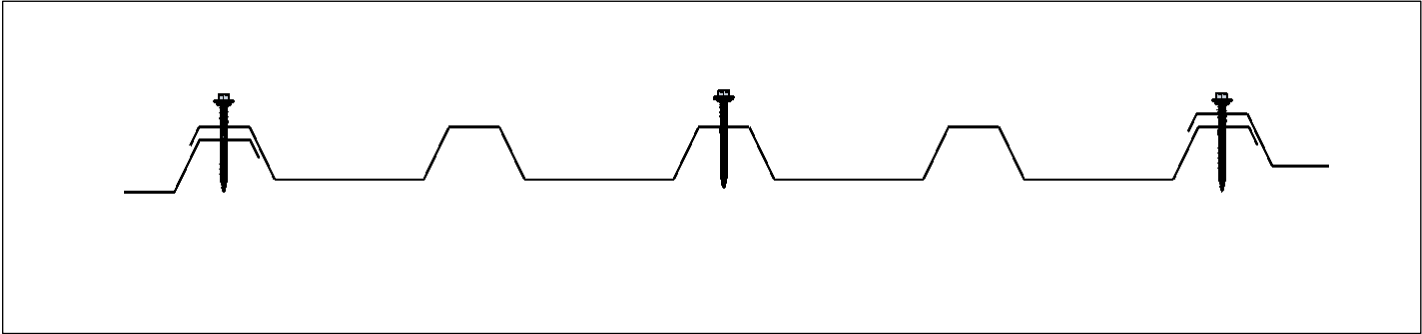
The maximum recommended spans detailed in this table are specific to the IBR profile under conditions limited to light foot traffic. The calculations assume a design load of 1.5kN downwards and a negative wind pressure of 2kPa. Additional information can be obtained by consulting Roofco’s Technical Department.

	Gauge 0.47mm	Gauge 0.50mm	Gauge 0.53mm	Gauge 0.58mm
GAUGE	Aluminium-Zinc Coated Steel	Aluminium-Zinc Coated Steel	Aluminium-Zinc Coated Steel	Aluminium-Zinc Coated Steel
ROOF SHEETING	IBR	IBR	IBR	IBR
Single Span	1200	1300	1400	1600
End Span	1500	1600	1700	1900
Internal Span	1800	1900	2000	2200
Cantilever	200	200	250	250
SIDE CLADDING	IBR	IBR	IBR	IBR
End Span	1600	1800	2000	2300
Internal Span	2000	2200	2400	2700
Cantilever	300	300	400	350
Approximate Mass (kg/m2)	4.8	5.11	5.42	5.51

This span table applies only to inaccessible roofs, considering temporary gravitational loads during installation and maintenance. Control foot traffic during installation: move across the slope directly above purlins and limit up-slope movement to the profile pans. Minimize activity on critical end spans. For maintenance, restrict personnel movement exclusively to dedicated walkways and landings. Designs requiring spans beyond this table must be referred to Roofco’s Technical Department for review. Note: 0.80mm Aluminium-Zinc coated steel is supplied in G275 grade.

IBR FIXING GUIDE

IBR sheeting is a pierce-fixed system suitable for timber or steel supports. Fasteners must be driven through the roof sheet perpendicular to the profile and centered on the crests. 1/no fastener at every alternate crest for intermediate purlins and 1/no fastener at every crest along eave, ridge, and apex purlins. It is recommended to stitch side laps at 500mm centers using #14 x 22mm metal stitching fasteners. In compliance with SANS 10400-L:2020, all side and end laps must be sealed using an approved butyl product or neutral cure silicone. For comprehensive fixing guidelines, refer to the Surefix™ fastener guidelines (page 35).



FASTENER GUIDELINE

IBR SHEETING		
PURLIN TYPE	ROOF	SIDE CLADDING
Steel	SF4, LS65, HWF, 12-14, DT, #3,EPDM CW	SF4,LS25,HWF, 12-14,FT,#3,EPDM CW
Timber	SF4, TF85, HWF, 12-9, DT, T17, EPDM CW	SF4, TF85, HWF, 12-9, DT, T17, EPDM CW
FLASHINGS		
	SF4, ST22, HWF, 14-14, TT, #1, EPDM CW	SF4, ST22, HWF, 14-14, TT, #1, EPDM CW

ROOF PITCH AND SHEET LENGTHS

IBR sheeting can be ordered in any length, subject to transport limitations, up to 14.5m. Longer lengths require special transport arrangements. When using IBR sheeting the recommended minimum pitch for roof slopes more than 15m is 7.5° and for slopes less than 15m is 5°.

DIMENSIONAL TOLERANCES

A length variation range of +10mm or -0mm, and a width tolerance of ±5mm is permissible. This applies to straight sheet lengths only.

WIDESPAN

Widespan offers a superior cover width compared to IBR, delivering a material saving of approximately 10%. This increased efficiency means fewer sheets are needed, directly reducing both installation time and labor costs. Furthermore, Widespan provides a significant strength advantage over traditional sinusoidal (corrugated) profiles. Its enhanced spanning capacity allows for fewer purlins, resulting in substantial savings on both substructure materials and onsite assembly. For architectural versatility, Widespan can be factory-cranked, curved, or bullnosed to various specifications.



WIDESPAN MATERIAL OPTIONS

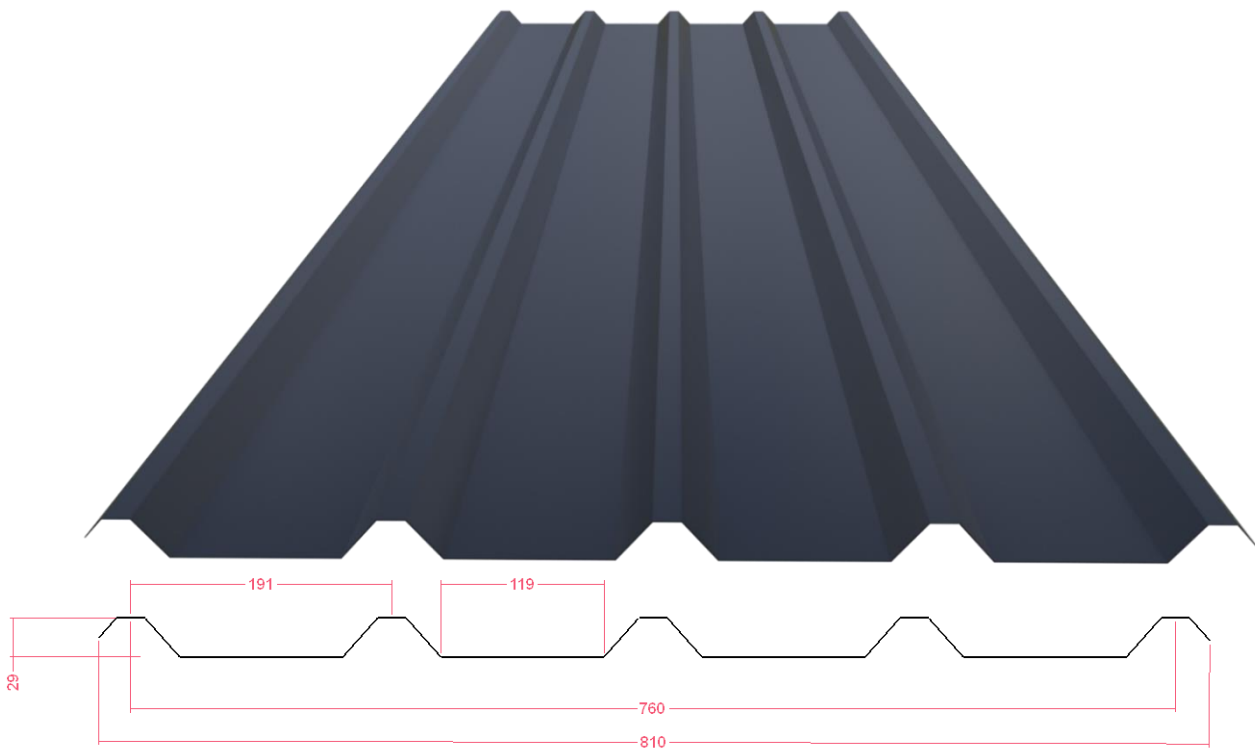
Aluminium-Zinc Coated Steel	Gauge (mm)
AZ 100 / 150 / 200 Unpainted or pre-painted	0.47 0.48 0.50 0.53 0.54 0.58 0.80*
Aluminium	
Unpainted or pre-painted	0,8
Zinc Coated Steel	
Unpainted or pre-painted	0,5
Other gauges are available on special request. All materials are subject to availability. * Available in G275/ISQ300 only.	

WIDESPAN SAMPLE SPECIFICATION

Roofco Widespan Sheeting: 0.47mm thick AZ150 Aluzinc® Widespan profile. The profile is to be roll-formed with five trapezoidal ribs spaced at 191mm centres, providing an effective cover width of 760mm. Rib height shall be 29.0 mm, and all installation must strictly adhere to the manufacturer’s technical specifications and recommendations.

Installation: Sheets to be crest-fixed to steel purlins using #12 x 65mm Surefix™ or manufacturer-approved hex-head self-drilling fasteners. Purlin spacing: 1500mm centers (intermediate) and 1300mm centers (ridge and eaves).

Fixing frequency: At every second crest, at intermediate purlins and at every crest along eave, ridge & apex purlins, strictly in accordance with Roofco Steel’s recommendations. Side laps to be stitched at 500mm centres between purlins with a #14 x 22mm metal stitching fastener, in accordance with manufacturer’s recommendations.



WIDESPAN PURLIN SPACINGS

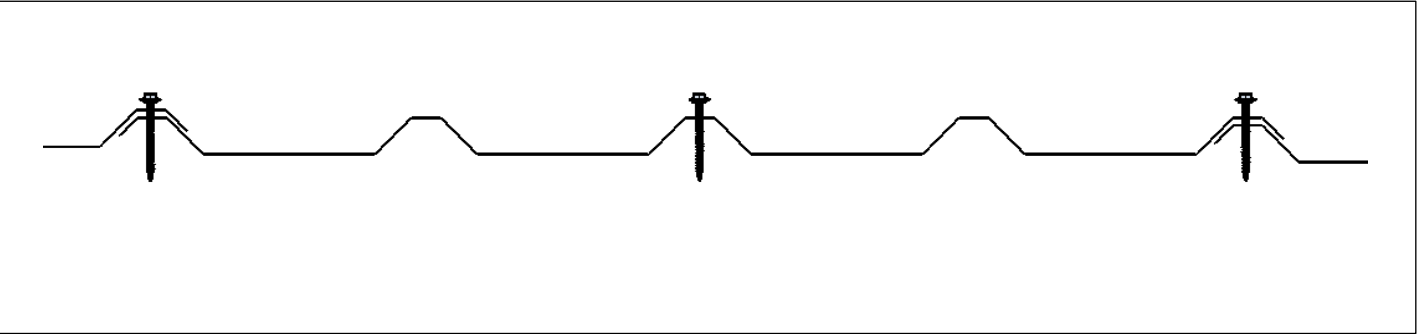
The maximum recommended spans detailed in this table are specific to the Widespan profile under conditions limited to light foot traffic. The calculations assume a design load of 1.5kN downwards and a negative wind pressure of 2kPa. Additional information can be obtained by consulting Roofco’s Technical Department.

GAUGE	Gauge 0.47mm Aluminium-Zinc Coated Steel	Gauge 0.50mm Aluminium-Zinc Coated Steel	Gauge 0.53mm Aluminium-Zinc Coated Steel	Gauge 0.58mm Aluminium-Zinc Coated Steel
ROOF SHEETING	Widespan	Widespan	Widespan	Widespan
Single Span	1100	1200	1300	1500
End Span	1300	1400	1500	1700
Internal Span	1500	1600	1700	1900
Cantilever	150	150	200	200
SIDE CLADDING	Widespan	Widespan	Widespan	Widespan
End Span	1600	1800	2000	2300
Internal Span	1900	2100	2300	2600
Cantilever	200	200	300	300
Approximate Mass (kg/m2)	4.34	5.61	4.89	5.27

This span table applies only to inaccessible roofs, considering temporary gravitational loads during installation and maintenance. Control foot traffic during installation: move across the slope directly above purlins and limit up-slope movement to the profile pans. Minimize activity on critical end spans. For maintenance, restrict personnel movement exclusively to dedicated walkways and landings. Designs requiring spans beyond this table must be referred to Roofco’s Technical Department for review. Note: 0.80mm Aluminium-Zinc coated steel is supplied in G275 grade.

WIDESPAN FIXING GUIDE

Widespan sheeting is a pierce-fixed system suitable for timber or steel supports. Fasteners must be driven through the roof sheet perpendicular to the profile and centered on the crests. 1/no fastener at every alternate crest for intermediate purlins and 1/no fastener at every crest along eave, ridge, and apex purlins. It is recommended to stitch side laps at 500mm centers using #14 x 22mm metal stitching fasteners. In compliance with SANS 10400-L:2020, all side and end laps must be sealed using an approved butyl product or neutral cure silicone. For comprehensive fixing guidelines, refer to the Surefix™ fastener guidelines (page 35).



WIDESPAN FASTENER GUIDELINE

WIDESPAN SHEETING		
PURLIN TYPE	ROOF	SIDE CLADDING
Steel	SF4, LS65, HWF, 12-14, DT, #3,EPDM CW	SF4,LS25,HWF, 12-14,FT,#3,EPDM CW
Timber	SF4, TF85, HWF, 12-9, DT, T17, EPDM CW	SF4, TF85, HWF, 12-9, DT, T17, EPDM CW
FLASHINGS		
	SF4, ST22, HWF, 14-14, TT, #1, EPDM CW	SF4, ST22, HWF, 14-14, TT, #1, EPDM CW

WIDESPAN ROOF PITCH AND SHEET LENGTHS

Widespan sheeting can be ordered in any length, subject to transport limitations, up to 14.5m. Longer lengths require special transport arrangements. When using Widespan sheeting the recommended minimum pitch for roof slopes more than 15m is 7.5° and for slopes less than 15m is 5°.

WIDESPAN DIMENSIONAL TOLERANCES

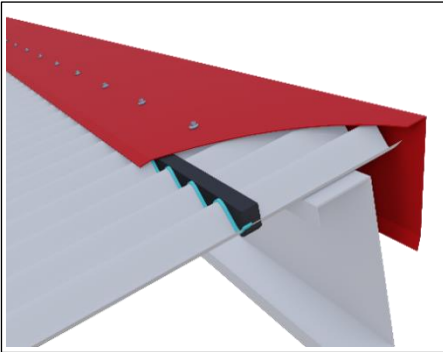
A length variation range of +10mm or -0mm, and a width tolerance of ±5mm is permissible. This applies to straight sheet lengths only.

PIERCED FIX FLASHINGS AND CLOSURES

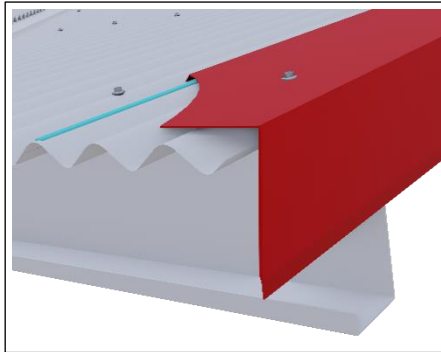
Roof flashings and closures are designed for specific uses and placements on a roof, featuring variations to accommodate the specified roofing profile and conditions. Typically, flashings are fabricated from the same material as the roofing to ensure a colour match, though complementary or matching colours can be selected if needed. For industrial and commercial buildings, flashings prioritize functionality over appearance. Roofco Steel offers a selection of standard flashings to meet these practical needs. In contrast, residential flashings often play a significant aesthetic role, often requiring bespoke designs suited to the specific buildings' requirements. Roofco Steel have the capability to manufacture bespoke flashings for both residential and commercial uses; please contact your local branch to learn more.

Longitudinal flashings are to be fastened at 500mm centres. Flashings are to be lapped at a minimum 150mm for roof flashings and at 100mm for side cladding. Flashings laps to be sealed using a suitable butyl product or neutral cure Silicone.

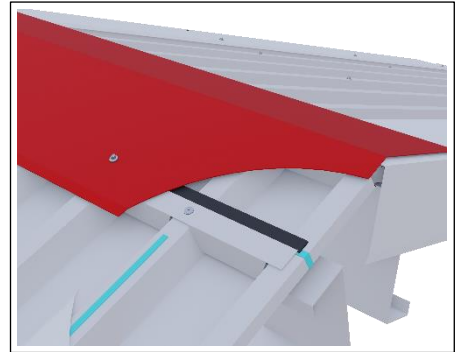
APEX FLASHING



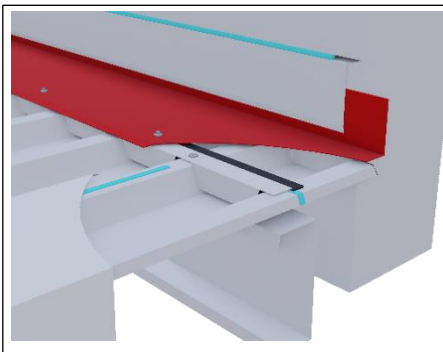
BARGE FLASHING



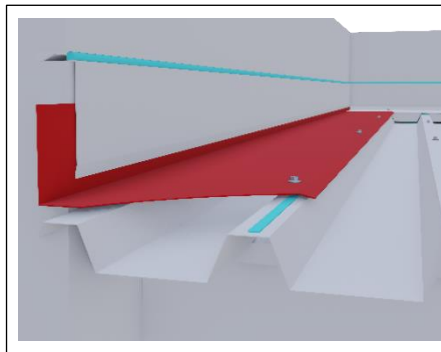
RIDGE FLASHING



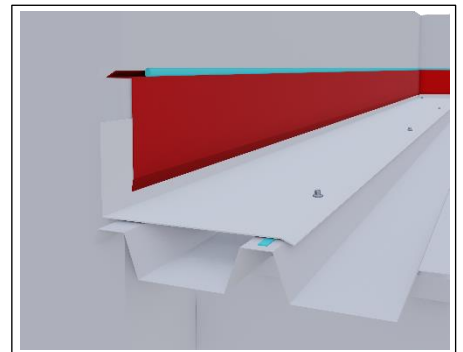
HEADWALL FLASHING



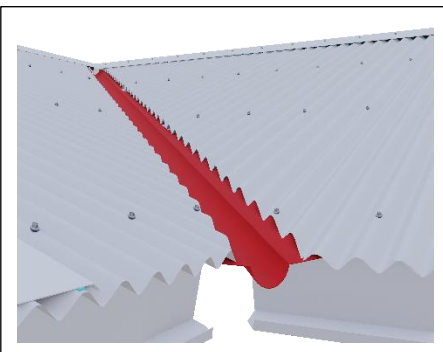
SIDEWALL FLASHING



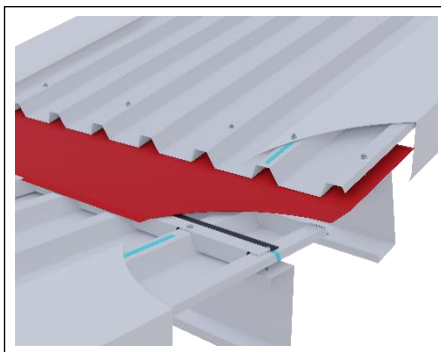
COUNTER FLASHING



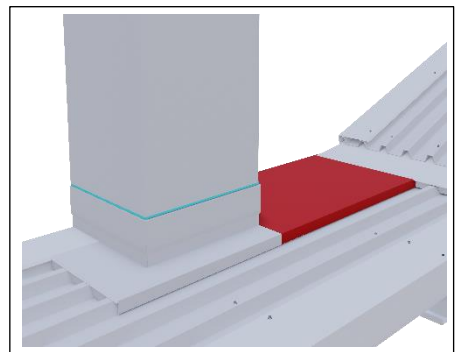
VALLEY FLASHING



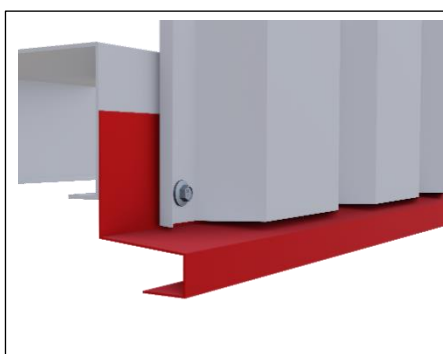
APRON FLASHING



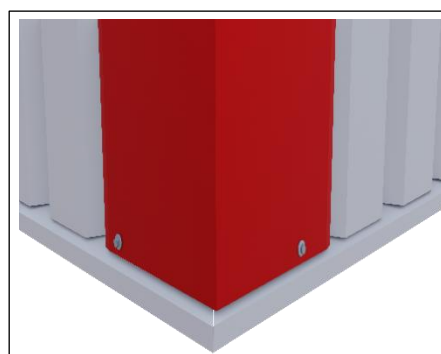
SOAKER FLASHING



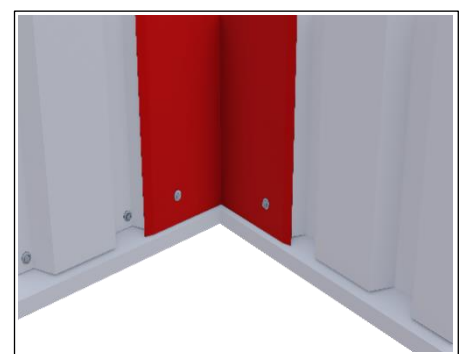
DRIP FLASHING



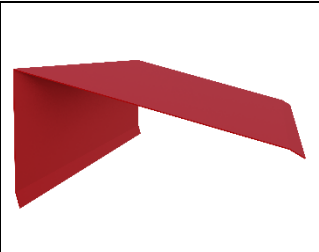
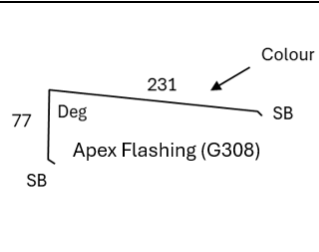
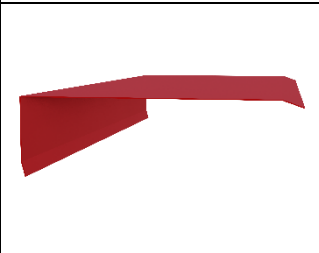
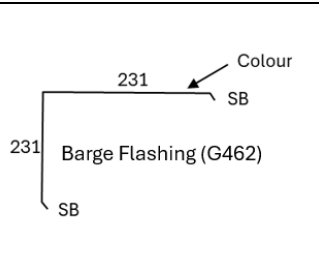
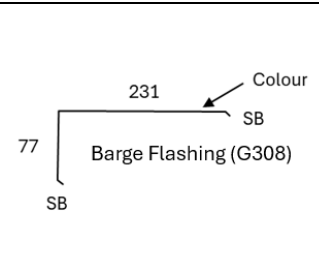
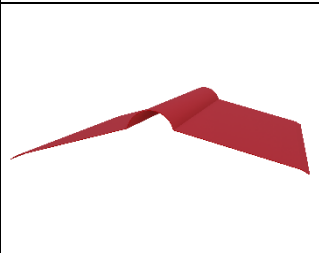
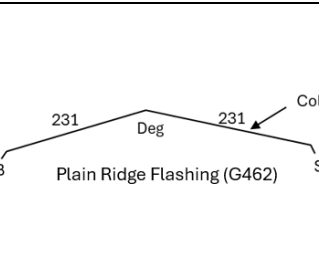
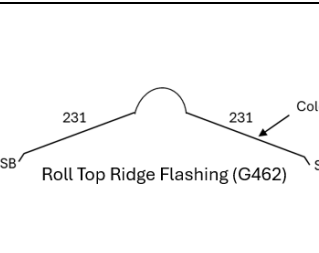
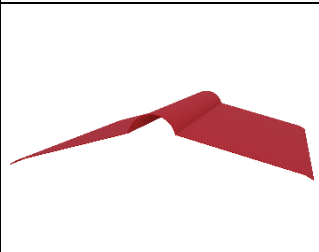
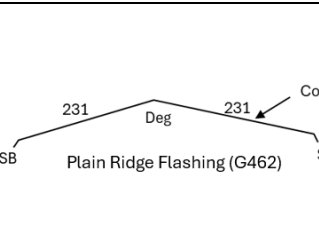
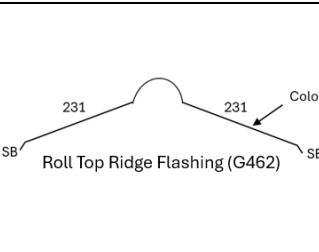
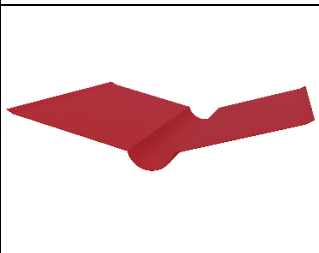
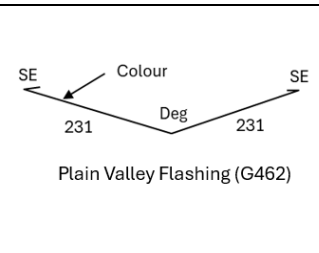
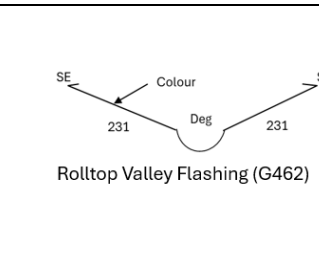
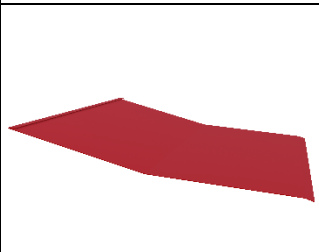
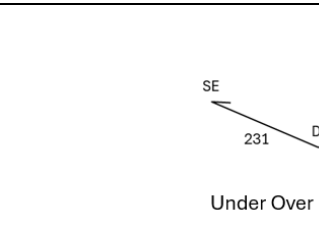
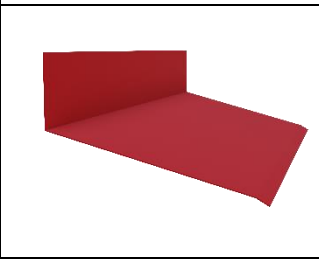
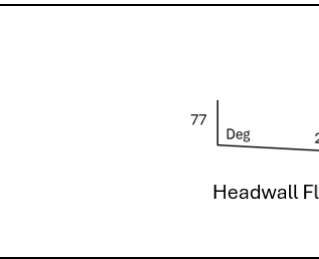
EXTERNAL CORNER FLASHING



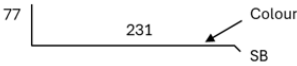
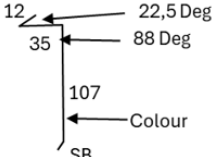
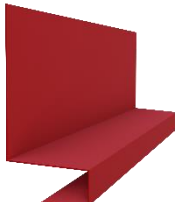
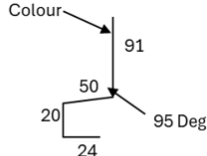
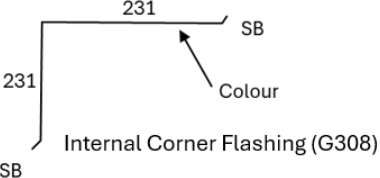
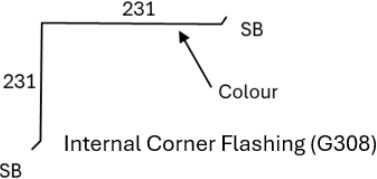
INTERNAL CORNER FLASHING



PIERCED FIX FLASHINGS

APEX FLASHING		 
BARGE FLASHING		 
RIDGE FLASHING		 
HIP FLASHING		 
VALLEY FLASHING		 
APRON FLASHING (UNDER/OVER)		
HEADWALL FLASHING		

PIERCED FIX FLASHINGS (Continued)

SIDEWALL FLASHING		 Sidewall Flashing (G308)
COUNTER FLASHING		 Counter Flashing (G154)
DRIP FLASHING		 Drip Flashing (G185)
EXTERNAL CORNER FLASHING		 Internal Corner Flashing (G308)
INTERNAL CORNER FLASHING		 Internal Corner Flashing (G308)

Note 3: SB = Stiffener bend is 15mm included at 15°, unless otherwise stated.

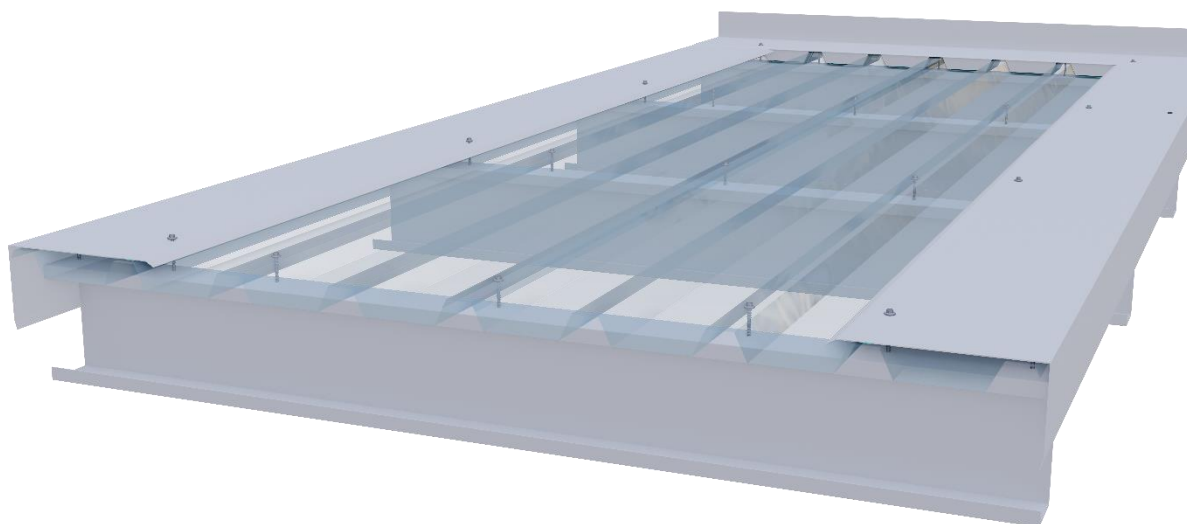
RESOL PREMIUM POLYCARBONATE

Resol polycarbonate sheeting is a high-performance roofing solution manufactured by Roofco Steel in Kwazulu-Natal from engineering and extrusion grade virgin SABIC material. Designed for both durability and aesthetic appeal, this sheeting has undergone rigorous testing to ensure it meets premium quality standards for the South African climate.

Resol polycarbonate is primarily utilized for natural light applications due to its transparent and durable nature. It serves as a superior replacement for glass, adding architectural flair while maintaining toughness.

Product Description and Features

- **Impact Resistance:** The material is 250 times stronger than glass and virtually unbreakable. It is manufactured using the same grade of polycarbonate found in aircraft windows, windscreens, riot shields, and machine guards.
- **Weather and Safety:** It is UV protected to withstand harsh weather conditions and possesses excellent flame-retardant properties.
- **Versatility:** The sheeting is lightweight and flexible, featuring thermal properties that provide natural insulation.



IBR POLYCARBONATE

Resol polycarbonate sheeting is currently manufactured in the Inverted Box Rib (IBR) trapezoidal fluted profile.

IBR POLYCARBONATE SAMPLE SPECIFICATION

Roofco IBR Polycarbonate Sheeting: 1.0mm thick Polycarbonate IBR profile. The profile is to be extruded with five trapezoidal ribs spaced at 171mm centres, providing an effective cover width of 686mm. Rib height shall be 36.5mm, and all installation must strictly adhere to the manufacturer's technical specifications and recommendations.

Installation: Sheets to be crest-fixed to steel purlins using #12 x 65mm Surefix™ hex-head self-drilling fasteners. All hole sizes must be over-drilled 4mm larger than the fastener shank diameter. An additional saddle washer or domed EPDM washer must be used in conjunction with every fastener. Purlin spacing: 1200mm centers (intermediate) and 1000mm centers (perimeter).

Fixing frequency: 1/no fastener at every crest for intermediate purlins and 1/no fastener at every crest along eave, ridge, and apex purlins.

IBR POLYCARBONATE MATERIAL OPTIONS

Resol offers different thicknesses and UV protection levels based on the intended application.

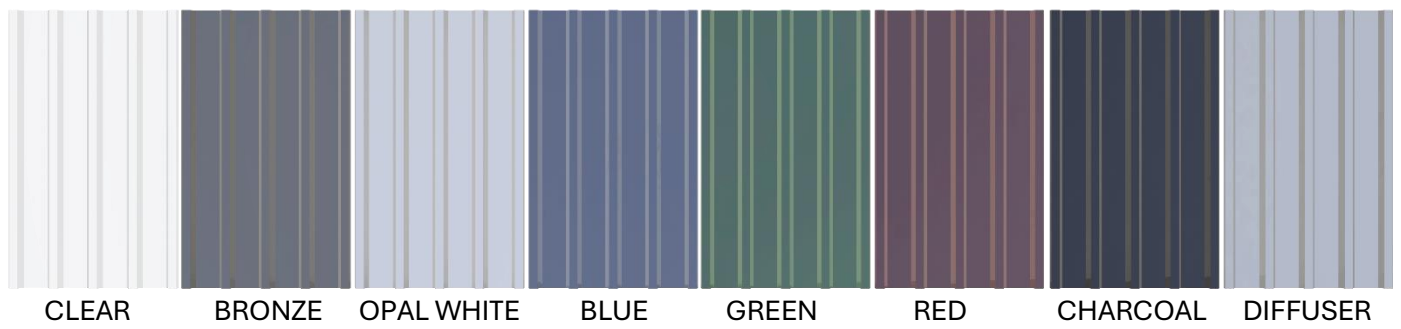
Resol Premium Polycarbonate Gauge (mm)	UV Rating	UV Gel Coat Application
0.8 mm	UV 1	Single Sided Application
1.0 mm	UV 2	Double Sided Application
1.2mm	UV 2	Double Sided Application

COLOURS AND LIGHT TRANSMISSIBILITY

Colour	Light Transmission (%)	Light Reflection (%)	Solar Transmission (%)	Solar Heat Gain Coefficient	Thermal Resistance
Clear	90	10	86	1.00	0.83
Bronze	50	7	54	0.75	0.84
Opal	70	79	71	0.60	0.87
Blue Tint	50	55	51	0.55	0.87
Green Tint	70	82	79	0.65	0.84
Red Tint	35	28	32	0.64	0.87

*Note: Additional colours on offer include Charcoal, Solar Grey, and Diffuser.

COLOURS ON OFFER

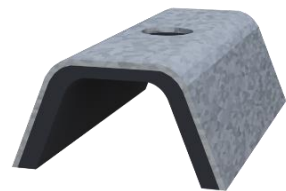


IBR POLYCARBONATE FIXING GUIDE

IBR Polycarbonate sheeting is a pierce-fixed system suitable for timber or steel supports. 1/no fastener at every alternate crest for intermediate purlins and 1/no fastener at every crest along eave, ridge, and apex purlins. All hole sizes must be over-drilled 4mm larger than the fastener shank diameter. An additional saddle washer or domed EPDM washer must be used in conjunction with every fastener. For comprehensive fixing guidelines, refer to the Surefix™ fastener guidelines (page 35).



DOMED WASHER



SADDLE WASHER

FASTENER GUIDELINE

IBR POLYCARBONATE SHEETING		
PURLIN TYPE	ROOF	SIDE CLADDING
Steel	SF4, LS75, HWF, 12-14, FTWL, #3, EPDM DW	SF4,LS25,HWF, 12-14,FT,#3,EPDM BW
Timber	SF4, TF85, HWF, 12-9, DT, T17, EPDM DW	SF4, TF50, HWF, 12-9, DT, T17, EPDM BW

ROOF PITCH AND SHEET LENGTHS

IBR Polycarbonate sheeting can be ordered in increments of 600mm up to 12.600m. When using IBR sheeting the recommended minimum pitch for roof slopes more than 15m is 7.5° and for slopes less than 15m is 5°.

DIMENSIONAL TOLERANCES

A length variation range of +10mm or -0mm, and a width tolerance of ±5mm is permissible. This applies to straight sheet lengths only.

COLD FORMED PRE-GALVANISED SECTIONS

LIP CHANNEL

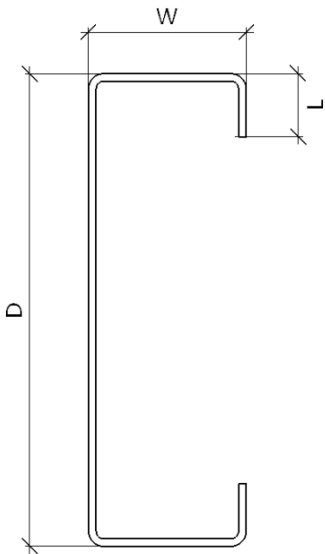
Pre-galvanised lip channels are cold-rolled from high-strength steel coils that have been pre-coated with zinc. These sections offer excellent strength-to-weight ratios and built-in corrosion protection, making them ideal for roof purlins, side girts, and light-gauge steel framing. Roofco offers a range of cold rolled pre-galvanised steel lip channel sections for purpose made structures. With in-house slitting and recoiling we can produce lipped channels of virtually any size on our fully automated purlin lines. Our services include punching and marking as per drawings with tolerances of as little as 1mm.

Roofco Steel’s pre-galvanised lip channels are manufactured from ISQ 300 (Iscor Structural Quality 300 MPa) and can be supplied with the mother coil test certificates if required.

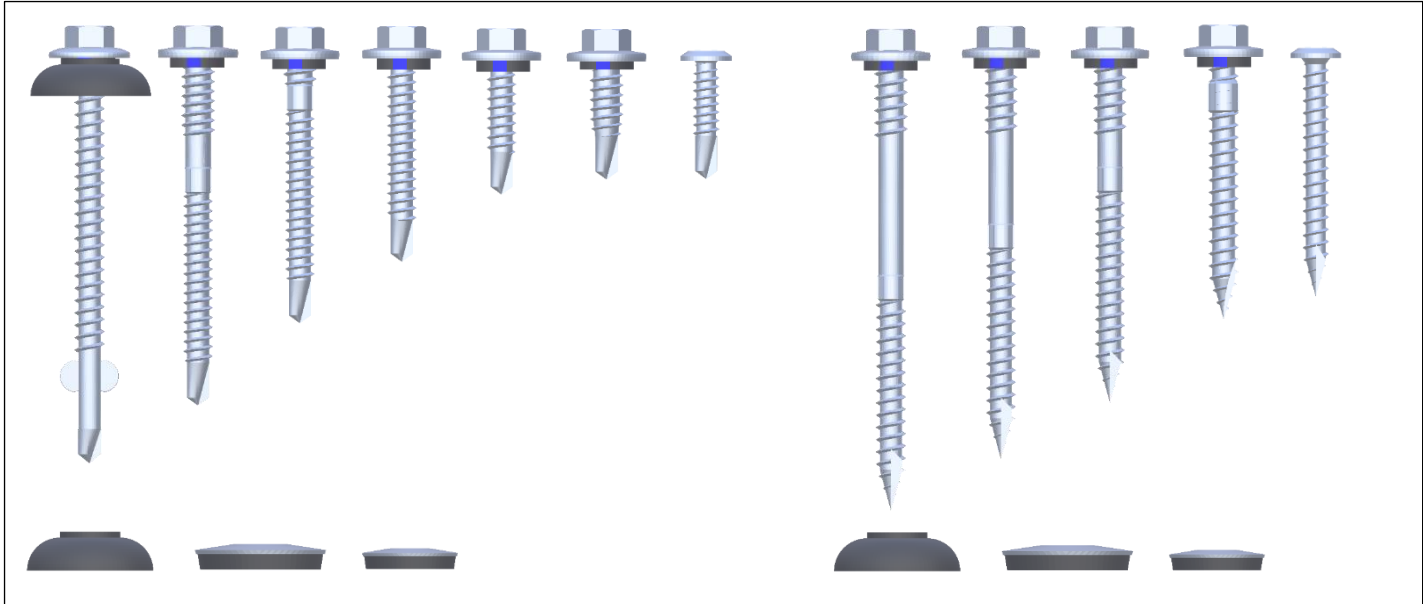
LIP CHANNEL MATERIAL OPTIONS

Material	Thickness
Z275 Pre-Galvanised Cold Rolled Steel ISQ300	1.9 mm
Z275 Pre-Galvanised Cold Rolled Steel ISQ300	2.4 mm
Grade: ISQ 300 (or Grade 300 Structural Quality).	
Application: Suitable for load-bearing structural members (purlins, girts, and framing) where a minimum yield strength of 300 MPa is required.	
Coating Class: Z275 (Standard Galvanised).	

LIP CHANNEL STANDARD SIZES (1.8mm & 2.4mm)

	L (mm)		
	D (mm)	W (mm)	L (mm)
	75	50	20
	100	50	20
	100	75	20
	125	50	20
	125	65	20
	125	75	20
	150	50	20
	150	65	20
	150	75	20
	175	50	20
	175	65	20
	175	75	20
	200	50	20
	200	65	20
	200	75	20
	225	50	20
	225	65	20
	225	75	20
	250	50	20
	250	65	20
	250	75	20
	275	50	20
	275	65	20
	275	75	20
	300	50	20
	300	65	20
	300	75	20

This proprietary range of mechanically plated carbon steel fasteners is fully compliant with SANS 1273-2011 & AS 3566.2-2002. The Surefix™ range is independently tested by internationally accredited third-party testing authorities..



SUREFIX™ MATERIAL & COATING SPECIFICATIONS

MATERIAL SPECIFICATION	
Material	C1022 Carbon Steel
Surface Hardness	HV 560 MIN
Core Hardness	HV 425 MAX
Case Depth	0.10-0.23
COATING SPECIFICATION	
Fastener Class	Class 4
Mechanical Plating	45um Zinc-Tin (Zinc: 70-75% Tin: 25-30%) (Minimum Porosity Rating 8/10)
Dip Spin Topcoat	Zinc-Aluminium Ruspert™
ACCELERATED TESTS	
Salt Spray Test	2000 Hours
Kesternich Test	20 Cycles

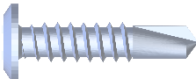
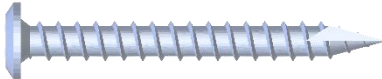
FASTENER CODE IDENTIFIERS

BRAND & FASTENER CLASS	INTENDED SUBSTRATE	FASTENER LENGTH (mm)	HEAD TYPE	FASTENER DIAMETER (GAUGE)	THREAD COUNT (TPI)	THREAD TYPE	DRILL-POINT	WASHER SEAL	WASHER TYPE
SF4: SUREFIX CLASS 4	LS: LIGHT STEEL (0-3.0mm)	65: FASTENER LENGTH	HWF: HEXAGONAL WASHER FLANGE	12: 5.5mm FASTENER DIAMETER (mm)	14: THREADS PER INCH (no)	DT: DUAL THREAD	#3: NO3 DRILL-POINT	EPDM: LOW CARBON EPDM SEAL	CW: CUT WASHER
SF3: SUREFIX CLASS 3	TF: TIMBER or LIGHT GAUGE STEEL BATTENS		WFRSQD: WAFER NO2 SQUARE DRIVE	10: 4.8mm FASTENER DIAMETER (mm)	9: THREADS PER INCH (no)	FT: FULL THREAD	T17: TYPE 17 TIMBER		25BW: 25mm ALUMINIUM BONDED WASHER
	ST: STITCHING SCREW MAX 2x 0.8mm STEEL PLY			14: 6.3mm FASTENER DIAMETER (mm)	22: THREADS PER INCH	FTWL: FULL THREAD WITH WINGS	#1: NO1 REDUCED DRILL-POINT		19BW: 25mm ALUMINIUM BONDED WASHER
					11: THREADS PER INCH	TT: TAPERED THREAD	NP: NEEDLE POINT		DM: DOMED WASHER

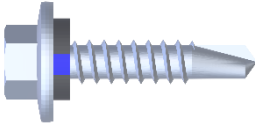
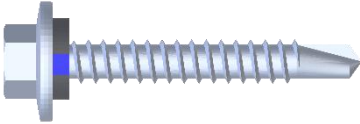
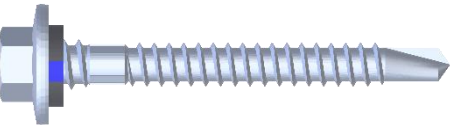
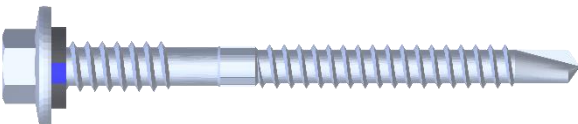
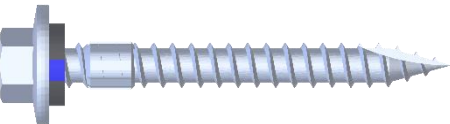
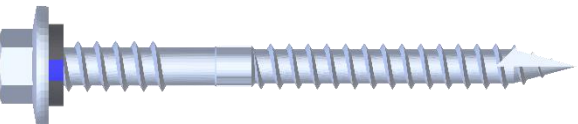
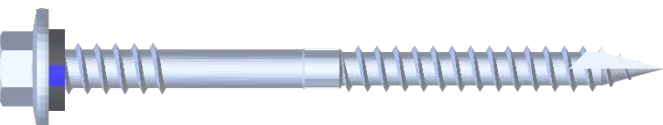
FASTENER SELECTION GUIDE: CORROSIVITY CATEGORIES

ISO 9223	Corrosivity Category					
	C1 (Very Low)	C2 (Low)	C3 (Medium)	C4 (High)	C5 Industrial (Very High)	C5 Marine (Very High)
Common Characteristics	Indoor, dry, air conditioned	Indoor, high humidity	Coastal areas with low salinity, urban and industrial areas with low pollution, varies significantly with factors such as winds, topography and vegetation	Occurs mainly on the coast. In areas with rough seas and surf, it extends from several hundred metres to 1 km inland	Aggressive industrial areas	Mainly occurs offshore and on the beachfront in regions of rough seas and surf. can extend for several hundred metres inland
Zinc Loss	0.1 µm /annum	0.1–0.7 µm /annum	0.7–2.1 µm /annum	2.1–4.2 µm /annum	4.2–8.4 µm /annum	4.2–8.4 µm /annum
Class 1	✓	NR	NR	NR	NR	NR
Class 2	✓	NR	NR	NR	NR	NR
Class 3	✓	✓	✓	NR	NR	NR
Class 4	✓	✓	✓	✓	NR	NR
300 Series Stainless Steel	✓	✓	✓	✓	316 Grade Recommended	316 Grade Recommended
NOTE: NR: Not Recommended. C5 Industrial and C5 Marine Categories: These atmospheric corrosivity categories are particularly aggressive to organic coatings and require additional special protection. Stainless Steel or other Alloys: When using stainless steel or other alloy fasteners, consideration must be given to materials compatibility. 316 Grade: This grade is specifically recommended for the "Very High" corrosivity categories.						

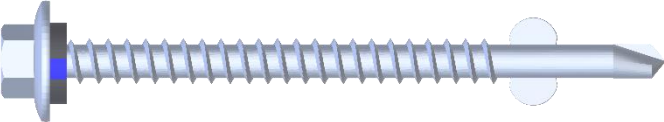
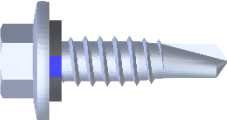
SUREFIX™ FASTENER RANGE

SQUARE DRIVE WAFER HEAD FASTENERS *Other lengths available on request. Lead times apply.	
22mm Wafer Head Self-Drilling Fastener for Steel Purlins (SF3,LS22,WFRSQD,10-24,FT,#3)	
For concealed fix onto steel purlins or girts (Surelok™)	
45mm Wafer Head T17 Fastener for Timber Purlins (SF3,TF45,WFRSQD,10-11,FT,T17)	
For concealed fix onto timber purlins or light gauge steel battens (Surelok™)	

SUREFIX™ FASTENER RANGE (continued)

5/16 HEX HEAD FASTENERS *Other lengths available on request. Lead times apply.	
25mm Hex Head Self-Drilling Fastener for Steel Purlins (SF4,LS25,HWF,12-14,FT,#3,EPDM,CW)	
For pierced fix vertical cladding onto steel girts (Corrugated, IBR, Widespan)	
38mm Hex Head Self-Drilling Fastener for Steel Purlins (SF4,LS38,HWF,12-14,FT,#3,EPDM CW)	
For pierced fix onto steel purlins (Corrugated)	
50mm Hex Head Self-Drilling Fastener for Steel Purlins (SF4,LS50, HWF,12-14,DT,#3,EPDM CW)	
For pierced fix onto steel purlins (Widespan)	
65mm Hex Head Self-Drilling Fastener for Steel Purlins (SF4,LS65,HWF,12-14,DT,#3,EPDM CW)	
For pierced fix onto steel purlins (IBR)	
50mm Hex Head T17 Fastener for Timber Purlins (SF4,TF50,HWF,12-9,DT,T17,EPDM CW)	
For pierced fix onto timber purlins (Corrugated)	
65mm Hex Head T17 Fastener for Timber Purlins (SF4,TF65,HWF,12-9,DT,T17,EPDM CW)	
For pierced fix onto timber purlins (Corrugated)	
75mm Hex Head T17 Fastener for Timber Purlins (SF4,TF75,HWF,12-9,DT,T17,EPDM CW)	
For pierced fix onto timber purlins (IBR, Widespan)	

SUREFIX™ FASTENER RANGE (continued)

85mm Hex Head T17 Fastener for Timber Purlins (SF4,TF85,HWF,12-9,DT,T17,EPDM CW)	
For pierced fix onto timber purlins (IBR)	
75mm Hex Head Self-Drilling Polywing Fastener for Steel Purlins (SF4,LS75,HWF,12-14,FTWL,#3,EPDM DW)	
For pierced fix Polycarbonate onto steel purlins (IBR) *Specialised fastener with sacrificial wings on shank that over-drill hole size in polycarbonate sheet and break off when striking steel purlin. Domed EPDM washer for reduced pullover and better hole coverage.	
22mm Hex Head Self-Drilling Stitching Screw (SF4,ST22,HWF,14-14,TT,#1,EPDM CW)	
For sidelap stitching & securing flashings	
6x19mm Aluminium Bonded Washer EPDM (1+3mm)(ALBW,6-19,EPDM)	
Multiple applications	
6x25mm Aluminium Bonded Washer EPDM (1+3mm)(ALBW,6-25,EPDM)	
Multiple applications	
Dome Washer EPDM (DW,EPDM)	
Specialised Domed EPDM washer for reduced pullover and better hole coverage. For use with Polycarbonate sheeting.	

SUREFIX™ INSTALLATION GUIDELINES

Installing pierced-fix roofing requires precision to ensure the building remains watertight and the fasteners achieve their maximum pull-out strength.

For roofing, fasteners must be installed through the crest of the profile to allow water to run off into the pans. For wall cladding, you may fix into the pans/valleys.

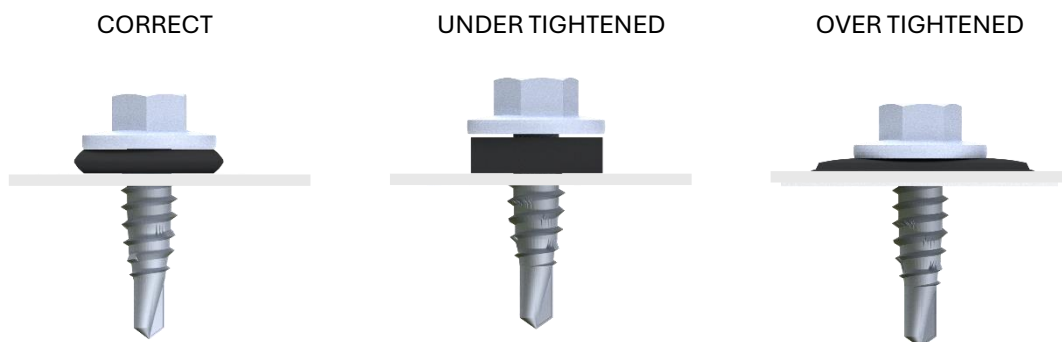
Driving the Fastener

- **Alignment:** Hold the fastener at a 90-degree angle (perpendicular) to the roofing surface. Driving at an angle is the leading cause of leaks.
- **Pressure:** Apply firm, steady downward pressure.
 - For Steel: Start at a medium speed. Let the Tek point "bite" and drill the hole before the threads engage.
 - For Timber: The T17 point is self-piercing, but for very hard or dry timber, pre-drilling a small pilot hole may be necessary to prevent splitting.
- **Speed Control:**
 - Steel: Keep speed under 2,500 RPM for light gauge and 2,000 RPM for heavy gauge steel to avoid burning the drill tip.
 - Steel: Keep speed under 2,500 RPM for light gauge and 2,000 RPM for heavy gauge steel to avoid burning the drill tip.
 - Timber: Use a slower, controlled speed to ensure the threads "cut" into the wood rather than stripping the hole.

Washer Compression

The EPDM washer creates the seal. Achieving the "Goldilocks" level of compression is vital for a leak-free roof.

- **Correct:** The EPDM seal should be visible and slightly compressed beyond the edge of the metal washer flange (approx. 1mm overlap).
- **Under Tightened:** If the washer can be spun by hand, it will leak.
- **Over Tightened:** If the EPDM is "mushrooming" or extruding aggressively past the metal flange, it will degrade quickly under UV light and likely crack, leading to leaks



Maintenance and Safety

- **Clean Up:** Immediately remove all metal swarf (drill shavings) from the roof surface using a soft brush. Swarf will rust rapidly and cause unsightly "tea staining" or pitting on your Class 4 coated sheets.
- **Footwear:** Wear clean, soft-soled rubber shoes to avoid scratching the protective coating of the fasteners and roofing sheets.
- **Check Pattern:** Follow the manufacturer's specific fastening pattern (e.g., every 2nd or 3rd crest) to meet local wind load requirements.

SHEET STORAGE, HANDLING AND TRANSPORTATION GUIDELINES

Understanding and Preventing Wet Storage Stain

While steel sheets receive a factory-applied chromate passivation treatment to ensure long-term durability, they remain susceptible to **wet storage stain**. This condition typically occurs when water becomes trapped between stacked sheets, choking off air circulation.

Storage Best Practices:

- **Moisture Control:** Maintain a dry environment and ensure sheets do not touch if they become damp. Ensure the product remains dry and is stored off the ground on dunnages.
- **Alternative Stacking:** If dry storage is unavailable, stand sheets upright, elevated off the ground, and spaced at the base to promote airflow.
- **Condensation Risks:** Be mindful of temperature drops following humid days. Storing materials directly on or near the ground increases condensation risk due to lower nocturnal temperatures.
- **Aesthetic Impact:** Note that while these stains are purely cosmetic and do not compromise structural integrity, they significantly impact the product's appearance.
- **Emergency Drying:** Should stacked or bundled materials become damp, immediately separate them and dry each surface thoroughly with a clean, lint-free cloth.

Handling Guidelines

- **Surface Protection:** Exercise caution during handling to prevent physical damage. Do not slide sheets across one another or over abrasive surfaces. Keep the material clear of tools and metal shavings (swarf) to avoid scratching.

Transportation Guidelines

- **Standard Delivery:** The maximum length for road transport is 13.2 m. Special Transport: up to 21.0m
- **On-Site Solutions:** For projects requiring longer spans, Surelok® can be custom rolled on-site to any length.

MATERIAL AND INSTALLATION GUIDELINES

Material Compatibility & Corrosion Control

- **Incompatible Materials:** To prevent galvanic corrosion, ensure that Aluminum-Zinc coated steel and Aluminum products do not come into contact with Lead, Copper, Carbon, or bare steel.
- **Runoff Management:** Avoid the discharge of rainwater from these incompatible materials onto your roofing or cladding surfaces.
- **Structural Supports:** All supporting structural members must be appropriately coated to protect against moisture and underside condensation.
- **Technical Consultation:** If you are uncertain about the compatibility of auxiliary products, please consult the technical team at your local Roofco Steel branch for guidance.

Cladding Material	Contact Surface						Unseasoned or Wet Timber
	Zinc-coated Steel and Zinc	Aluminium/Zinc Alloy-coated Steel	Aluminium and Aluminium Alloys	Stainless Steel	Copper and Copper Alloys	Lead	
Zinc-coated Steel and Zinc	Yes	Yes	Yes	No	No	No	No
Aluminium/Zinc Alloy-coated Steel	Yes	Yes	Yes	No	No	No	No
Aluminium and Aluminium Alloys	Yes	Yes	Yes	No	No	No	No

Note: Unless adequate separation can be ensured, steel based pre-painted cladding materials or Aluminium or stainless steel should be considered in terms of the base material.

Upper material	Lower cladding/accessory material					
	Aluminium and Aluminium alloys	Copper and copper alloys	Stainless steel (300 Series)	Zinc-coated steel and Zinc	Aluminium/Zinc alloy-coated steel	Lead
Zinc-coated steel and Zinc	Yes	Yes	Yes	Yes	Yes	Yes
Aluminium/Zinc alloy-coated	Yes	Yes	Yes	No	Yes	Yes
Pre-painted metal	Yes	Yes	Yes	No	Yes	Yes
Aluminium and Aluminium alloys	Yes	Yes	Yes	No	Yes	Yes
Stainless steel	Yes	Yes	Yes	No	Yes	Yes
Copper and Copper alloys	No	Yes	Yes	No	No	Yes
Lead	Yes	Yes	Yes	Yes	No	Yes
Acrylic + plastics	Yes	Yes	Yes	No	No	Yes
Glass	Yes	Yes	No	No	No	Yes
Glazed roof tiles + slate	Yes	Yes	Yes	No	No	Yes
Unglazed roof tiles	Yes	Yes	Yes	Yes	Yes	Yes
Fibre cement	Yes	Yes	Yes	Yes	Yes	Yes

Note: Whilst drainage between the materials shown would be acceptable, direct material contact should be avoided (refer to the table on page 40).

Environmental Corrosion Factors

- **Coastal and Urban Risks:** The South African coastline presents a harsh environment due to chloride exposure. In urban settings, corrosion is further accelerated by sulfur emissions from industrial activities and vehicle traffic.
- **Substrate Selection:** Choosing the correct steel substrate is essential to avoid high replacement costs and associated financial losses, such as rental income. Please contact Roofco Steel for detailed information regarding material selection.
- **Extreme Environments:** For projects in marine, heavy industrial, or uniquely corrosive areas, consult the technical team at your nearest Roofco Steel branch.
- **Micro-Climatic Variations:** While regional maps provide a general guide, local conditions—including wind patterns, land contours, altitude, and pollution—can cause corrosion rates to vary significantly from site to site.

On-Site Cutting and Site Hygiene

- **Recommended Equipment:** For cutting thin metal, a circular saw with a cold cutting metal blade is preferred over a carborundum disc. This tool generates fewer damaging hot particles and minimizes burr.
- **Work Area Protocol:** Perform all cutting over the ground rather than over other materials.
- **Carefully remove burring** from the cut edges by means of a fine-toothed steel file. Apply a two-part clear polyurethane sealant to all cut edges. **Recommended Product:** Dura Industrial - 2K Enamel and Catalyst
- **Daily Maintenance:** To prevent surface staining from rusting metal particles, sweep all metallic swarf and debris from the roof and gutters at the end of each workday and upon completion of the installation.

Aesthetic Characteristics

- **Oil Canning:** This visual effect can result from material properties, manufacturing processes, or structural alignment. It is purely aesthetic and does not compromise the structural integrity of the roofing system.
- **Edge Wave:** This may appear along the sides of the roof sheeting, though it is typically concealed by the sheet overlap.