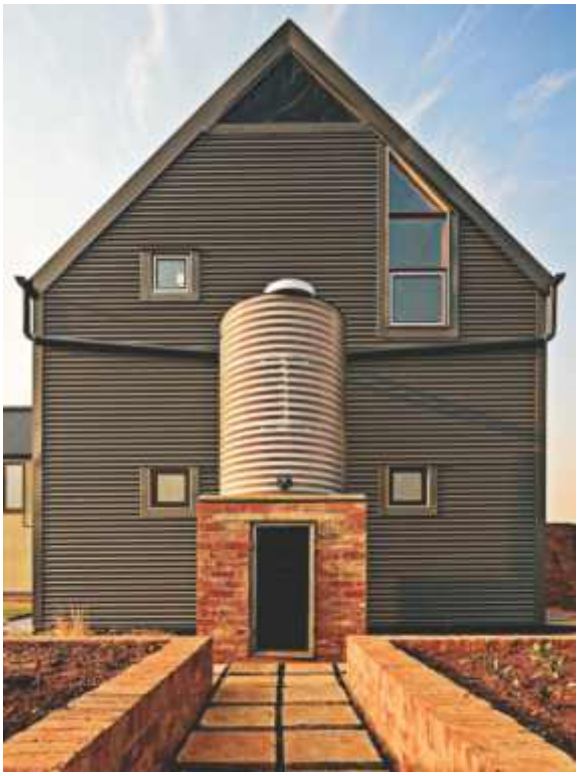
SAFINTRA
world class roofing systems

# PRODUCT GUIDE




A member of the
SAFAL GROUP

SAFINTRA


# THE NAME FOR WORLD CLASS METAL ROOFING SYSTEMS

**Safintra roll-forms metal sheeting for the most innovative design demands and challenging structural requirements, offering a wide variety of profiles to suit the full spectrum of our client's needs.**

### STEEL ROOFING IS ENVIRONMENTALLY RESPONSIBLE

Steel roofing is the preferred choice for professionals on the cutting edge of green building innovations. It enables a wide range of solutions that make buildings more energy efficient, less costly to construct, less wasteful to occupy and therefore more sustainable.

Steel is 100% recyclable, and steel construction requires less material than most because of its high strength to weight ratio, thus saving resources.

### BRANCHES:

Johannesburg, Cape Town, Durban, Port Elizabeth, Polokwane, Nelspruit, Bloemfontein. *www.safintra.co.za*
Further branches throughout SADC, Southern and Eastern Africa. *www.safintra.com*

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## SAFINTRA PRODUCTS

Safintra manufactures the trusted and proven **Saflok 700®** concealed fix system for wider sheet coverage, and **Saflok 410®** for challenging wind load conditions.

The **Newlok®** standing seam profile outperforms any other on the market, for wind performance and ease of installation.

Our exclusive pierced fix profiles include **Widedek®, Trimflute®** and **Fluteline®**, plus **Classicorr Corrugated®** and **Tufdek IBR®.** Safintra also manufactures the attractive **Versatile®** profile which combines the structural benefits of a continuous steel sheet with the aesthetic appeal of tile.

SAFLOK concealed fix roofing

NEWLOK standing seam roofing

TUFDEK IBR

VERSATILE

classicorr corrugated

FIXTITE FASTENERS

WIDEDEK

CLEARDEK

FLUTELINE

Trimflute

S-5! The Right Way

Clamps for all metal roof attachments

## COMPLETE ROOFING SOLUTIONS

Safintra also fabricates and sells roofing accessories and related products. These include flashings (for ridges, wall and barge applications), **Cleardek®** multi-wall polycarbonate sheet products and performance-tested **Fixtite®** fasteners. **S-5!®** clamps are suitable for almost any attachment of panels and other fixtures onto metal roofs.

## TECHNICAL SERVICE AND SUPPORT

We offer full technical support services at all our roll forming operations. Working with our accredited roofing installers, we will offer warranties on installation (T & C apply).

SAFINTRA world class roofing systems

# INDEX

# CONCEALED FIX ROOFING SYSTEMS

SAFLOK 700
concealed fix roofing

SAFLOK 410
concealed fix roofing

NEWLOK
standing seam roofing

## CONCEALED FIX FLASHINGS AND CLOSURES

## PRODUCT DESCRIPTION & FEATURES

Concealed-fix roofing, also referred to as secret fix, is designed for very low pitched roofs. Because clips under the sheet hold it down, the sheet is not punctured with fasteners, and remains completely watertight even at a very low slope. The securing clips are pre-fixed into the purlins and the sheet is mechanically snapped onto the clip.

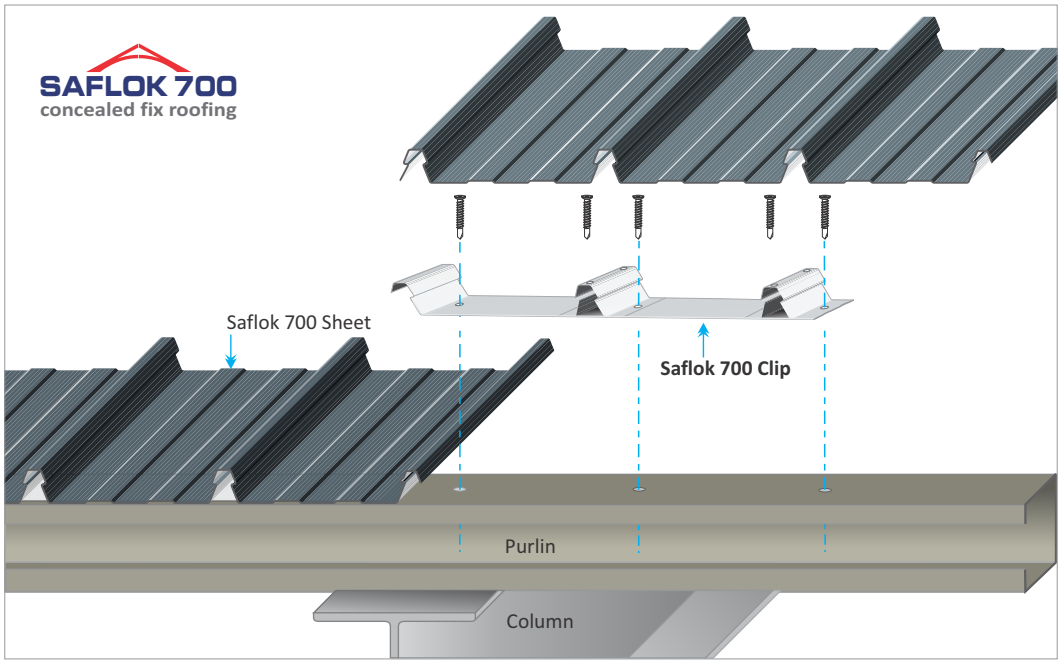
As a concealed fix sheet can also expand and contract over the clips as the temperature changes, this system is ideal for long spans on industrial, commercial and retail buildings.

The Saflok 700 ® concealed fix roofing system is an interlocking trapezoidal rib profile that can be rolled on site in lengths of up to 120 metres.

Saflok 700 ® may be rolled in Aluminium - Zinc coated steel, (bare or colour coated) or Aluminium (Mill Finish or G4 Colortech).

Saflok 700 ® can be curved or bullnosed to a minimum internal radius of 450mm - 500mm. Reverse cranking is not possible.

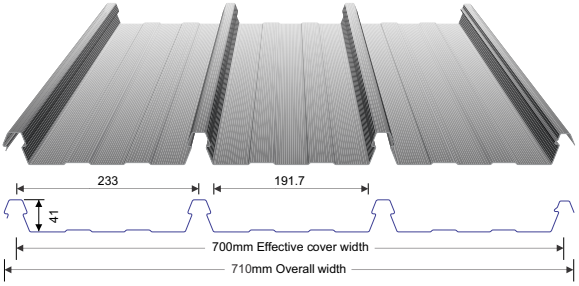
Further literature may be found at www.safintra.co.za.




## SAFLOK 700 CLIP

The fully interlocking SAFLOK 700 clip incorporates two anchors to clasp the two inner ribs and a dual action component to positively hold down the male-female joint.

1. Stiffener ribs on 0,8mm baseplate add formidable strength, specifically over the goose-neck
2. Full width engagement on the goose-neck male joint
3. 5 fastening points for stability, particularly over blanket insulation
4. Engineer-designed geometry of anchor unit for optimal performance under high wind loads and foot traffic
5. Entire clip is manufactured from Aluminium - Zinc coated steel for compatibility with sheeting




## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550 | 0.50 0.55 |
| Unpainted or pre-painted | |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |
| **Rheinzink** | **Gauge (mm)** |
| Rheinzink Material | 0.80 |

Other gauges are available on special request.

## SAMPLE SPECIFICATION

Safintra 0,50mm thick SAFLOK 700 Colorplus® AZ150 interlocking roof sheeting fixed to steel internal purlins at 2000mm, and ridge/eaves purlins at 1700mm centres using SAFLOK 700 clips which must be screw fixed to steel purlins with Fixtite® or Safintra approved wafer head self-tapping screws. The sheeting will be a double interlocking concealed fix SAFLOK 700 profile as manufactured by Safintra Roofing, roll formed in continuous lengths from certified G550 steel or aluminium 3004 H14. The profile shall be roll formed with 4 ribs and centres not exceeding 233mm and a cover width not exceeding 700mm. 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.

## PURLIN SPACINGS

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | **mm** | **mm** | **mm** |
| Single Span | 1 400 | 1 700 | 1 400 |
| End Span | 1 600 | 1 900 | 1 500 |
| Internal/Double Span | 1 800 | 2 100 | 2 000 |
| Cantilever (Unstiffened) | 150 | 150 | 180 |
| Cantilever (Stiffened) | 350 | 300 | 380 |
| **SIDE CLADDING** | | | |
| Single Span | 2 100 | 2 300 | 1 600 |
| End Span | 2 400 | 2 600 | 2 200 |
| Internal Span | 2 600 | 2 700 | 2 400 |
| Cantilever | 300 | 400 | 300 |
| Approximate Mass/m² | 5.2kg | 6.2kg | 2.9kg |

**Saflok 700 clips are calculated at 330g per clip - require approximately 1.5 clips per m².**

Span tables are for SAFLOK 700 with light foot traffic only. Span tables are based on 1.5kN downward point load, and 1.6kPa upward pressure. The span tables are maximum recommended spans based on buildings up to 10m high for a basic design wind speed of 28m/s, Terrain Category C.

For further clarity on terrain categories, and wind speeds, please refer to the Safintra Design and Installation Manual (specifically pages 5,6 and 10,11).

**Note 1:**
It is important to reduce purlin spacings by 20% when spring curving a roof.

## LENGTHS & ROOF PITCH

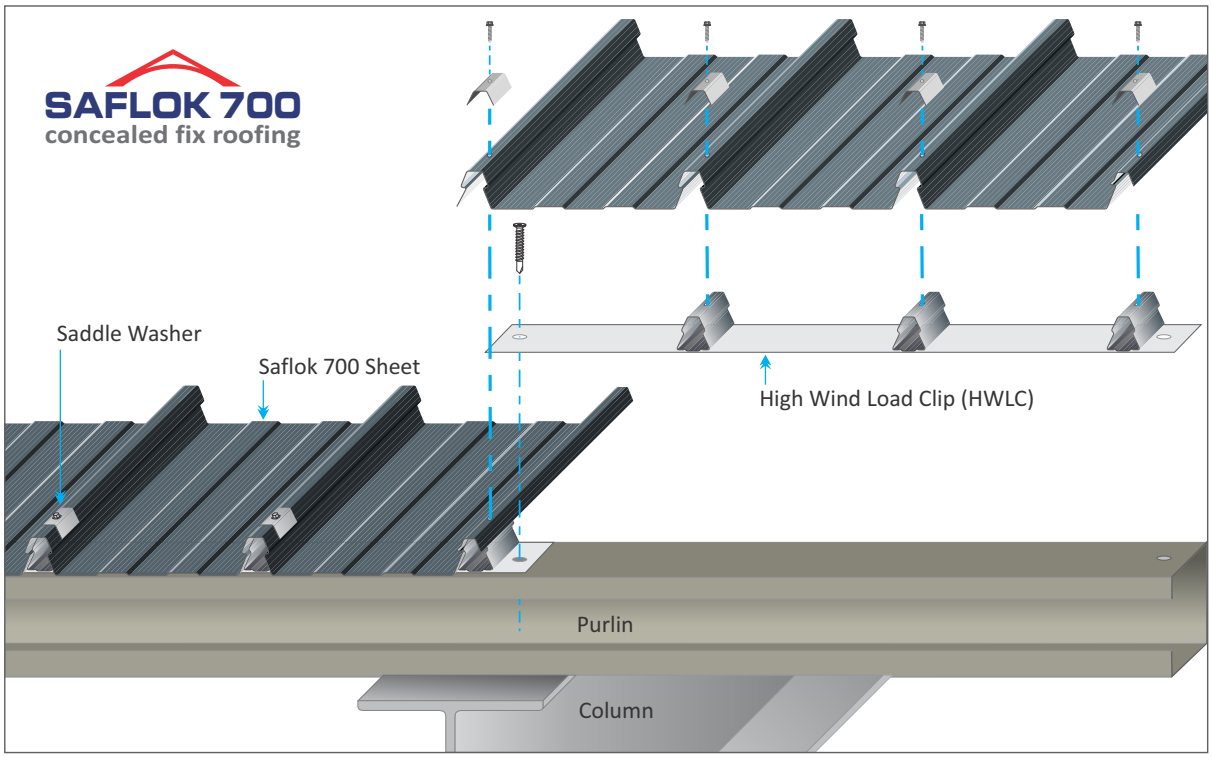
SAFLOK 700 can be ordered in any practical length as per customer requirements. On site rolling is recommended for lengths in excess of 13 metres. The minimum roof pitch when using SAFLOK 700 is 2° on steel and 3° on wood.

## DRAINAGE TABLE

| DRAINAGE TABLE | ROOF SLOPE | | | | |
|---|---|---|---|---|---|
| RAINFALL INTENSITY MM/HOUR | 2° | 3° | 5° | 8° | 10° |
| 250 | 75 | 90 | | | |
| 300 | 65 | 75 | 95 | | |
| 400 | 50 | 55 | 70 | 80 | 90 |
| 500 | 40 | 45 | 55 | 65 | 70 |
| Maximum roof run for roof slopes and rainfall intensities shown. | | | | | |

## HIGH WIND LOAD INSTALLATION DETAILING (HIGH WIND ZONES AND COASTAL WIND BELTS)

The installation process for using the High Wind Load System (HWLS) is a pierced fix method. The High Wind Load System is recommended for terrain categories A & B, (For pdf reference on terrain categories, a document may be found at www.safintra.co.za). Note that the HWLS is not a concealed fix system, and is therefore recommended only for the perimeter and/or overhang areas of the building. Buildings taller then 10m would also require special design attention and the use of the HWLS.



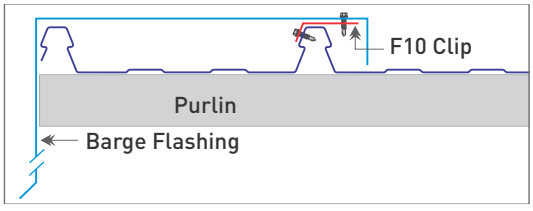

**Step 1.** Starting with the female rib first, align first sheet and hold down.

**Step 2.** Place saddle washers over the first 3 ribs above the purlins (starting from the female rib side). Align, and fasten the saddle washers through the rib using an appropriate Fixtite® or Safintra approved fastener.

**Step 3.** Position the next sheet, engaging the female rib firmly over the male rib of the previous sheet. Repeat step 2.

**Note:** The bonded washer can only be fixed from the top.

## F10 BRACKET FOR FLASHINGS




**Note:** this clip is positively fixed. Care should be taken when detailing industrial-length sheeting and flashing due to thermal expansion.

Safintra recommends the use of a Flashing Slider Clip for very long sheets. Please consult our Technical Department for assistance.

## SPECIALISED FIXING ACCESSORIES

### POLYSLIDER CLIP

For use with Saflok polycarbonate sheeting. Must be installed with saddle washer.
Polycarbonate sheets must be positively fixed - consult our technical department for advice.

## FASTENERS

Where insulation is to be installed, you may need to increase the length of the fasteners given below, depending on the density and thickness of the insulation. When the fastener is properly tightened:

- into metal: there should be at least three threads protruding past the purlin you are fixing to, but the shankguard must not reach that purlin.
- into timber: the fastener must penetrate the timber by the same amount that the recommended fastener would do if there were no insulation.

## CRANKING

SAFLOK 700 sheets may be cranked and bullnosed but not reverse bullnosed. Minimum radius is 450mm. On-site cranking is available on request.

## CURVING

Natural springing occurs at 36m radius in the convex and 60m radius in the concave. It is important to reduce purlin spacings by 20% when spring curving a roof.

## ROLLING STRAIGHT ONTO A ROOF

It is possible to rollform 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. The sheeting cannot be roll formed onto a building higher than 10m.

## SEALED JOINTS

For sealed joints use fasteners or rivets and neutral-cure silicone sealant branded as suitable for use with AZ steel.

**Note 2:**
Note that when using Saflok Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

**Note 3:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

## PRODUCT DESCRIPTION & FEATURES

Concealed-fixing, also referred to as secret fix, is designed for very low pitched roofs. Because clips under the sheet hold it down, the sheet is not punctured with fasteners, and remains completely watertight even at a very low slope. The securing clips are pre-fixed into the purlins and the sheet is mechanically snapped onto the clip. As a concealed fix sheet can also expand and contract over the clips as the temperature changes, this system is ideal for long spans on industrial, commercial and retail buildings.

SAFLOK 410 is a concealed fix sheet profile with an effective cover width of 410mm. It is an angular interlocking standing seam trapezoidal rib profile, and is usually roll formed on mobile mills on the building site.

## CLIPPING SYSTEM

The SAFLOK 410 clip incorporates a dual action component to positively hold down the male-female joint on every second rib, and an anchor to clasp the inner rib. Every rib is therefore secured, making it fully interlocking.

## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550 | 0.50 0.55 |
| Unpainted or pre-painted | |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |
| **Rheinzink** | **Gauge (mm)** |
| Rheinzink Material | 0.80 |

Other gauges are available on special request.
Please contact our technical division for additional information or technical data.

## SAMPLE SPECIFICATION

Safintra 0,50mm thick SAFLOK 410 Colorplus® AZ150 interlocking roof sheeting fixed to steel internal purlins at 1800mm, and ridge/eaves purlins at 1600mm centres using SAFLOK 410 clips which must be screw fixed to steel purlins with Fixtite® or Safintra approved wafer head self-tapping screws, all in accordance with manufacturer's recommendations.

The sheeting will be a double interlocking concealed fix SAFLOK 410 as manufactured by Safintra Roofing, roll-formed in continuous lengths from Aluminium or Aluminium-Zinc coated steel.

The profile shall be roll-formed with 3 ribs at centres not exceeding 205mm and a cover width not exceeding 410mm.

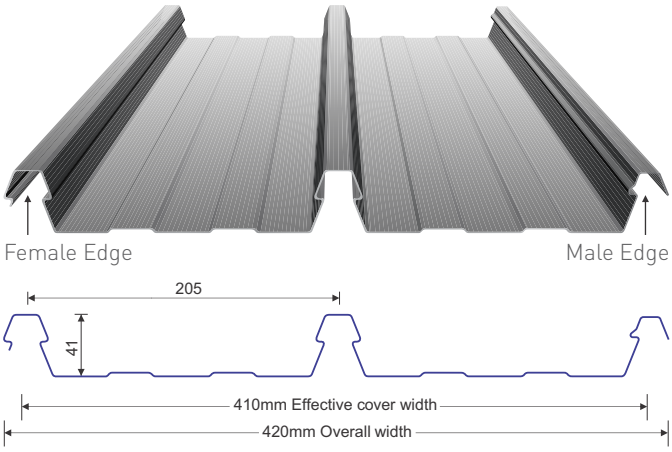
The male rib is to include spurs to ensure a double interlocking action with adjacent sheets. The minimum sheet depth shall be 41mm. Two stiffening ribs are incorporated in each pan.

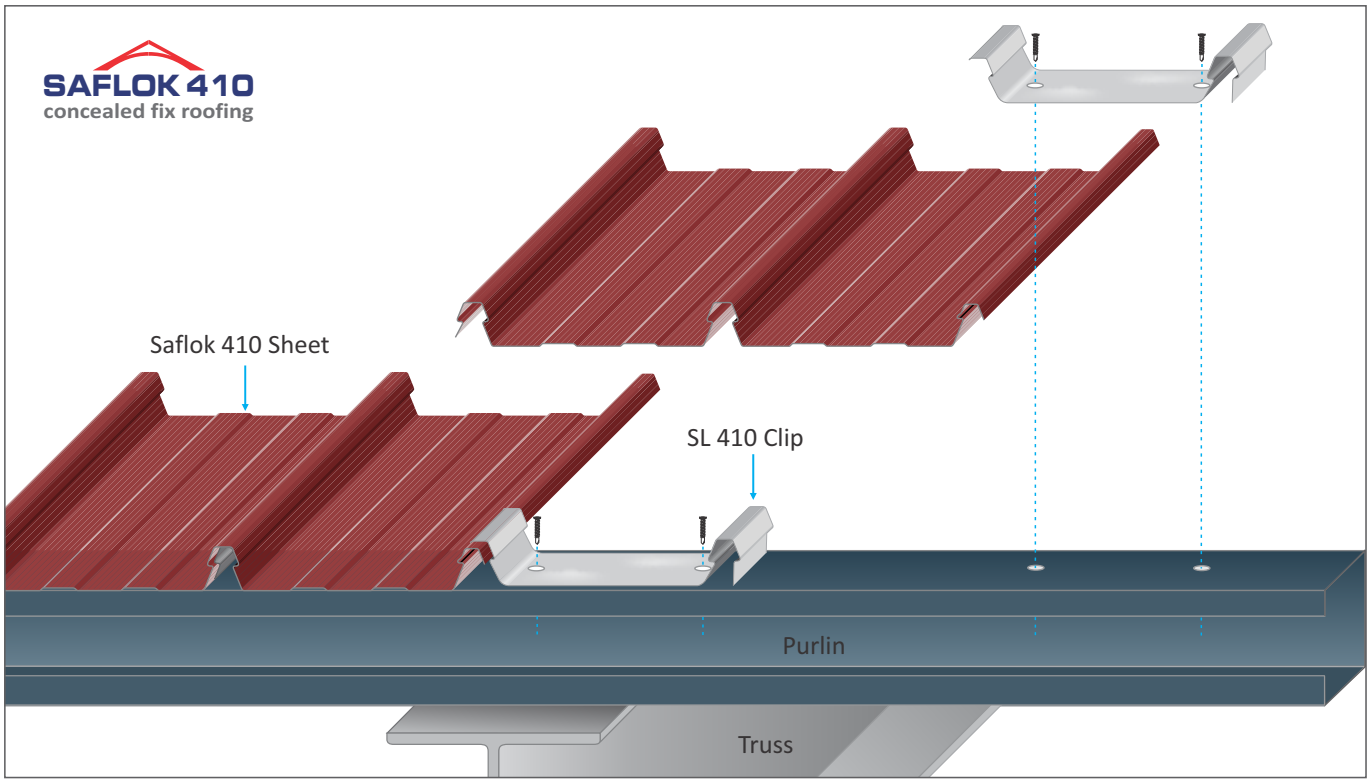
## LENGTHS

With the aid of mobile rolling mills, custom lengths can be rolled on-site. To date the longest continuous sheets in South Africa have been in the region of 130m long. Off-site rolled sheets are cut to transportable lengths (approximately 12m).

## ROOF PITCH

SAFLOK 410 was designed for roof pitches from as low as 2° (1 in 50) however 3° is preferred. It can also be used on walls. When applying to very steep roof pitches you should pierce-fix through each sheet under the flashing or capping, along the top of the sheet to prevent the concealed-fixed sheeting from sliding downward in the fixing clips. Clip-in marks might be visible on high pitched roofs. This visual effect might not be aesthetically pleasing in a residential application.






## INSTALLATION

Saflok 410 is fastened to the purlin by means of a Saflok 410 clip. Sheets are mechanically locked onto the clips and are not perforated at all. It is essential that the male rib is directly engaged to the underside of the clip.

**NEVER** re-use a Saflok 410 clip.

## MATERIAL COMPATIBILITY

Lead, copper, free carbon and bare steel are not compatible with Aluminium - Zinc coated steel or Aluminium material. Don't allow any contact with those materials, nor discharge of rainwater from them onto the material. Supporting members should be coated to avoid problems with underside condensation. If there are doubts about the compatibility of other products being used, consult the technical staff at your nearest Safintra branch.

**Note 1:**
Note that when using Saflok Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

## SEVERE CORROSIVE CONDITIONS

If this product is to be used in marine, severe industrial, or unusually corrosive environments, consult the technical staff at your nearest Safintra branch for guidance.

## MAINTENANCE

Optimum product life will be achieved if all external surfaces are washed regularly. Areas not cleaned by natural rainfall (such as the tops of walls sheltered by eaves) should be washed down every six months. Regular maintenance and inspections, especially after severe storms, are essential.

## STORAGE AND HANDLING

Keep the product dry and clear of the ground. If stacked or bundled product becomes wet, separate it, wipe it with a clean cloth to dry thoroughly. Handle materials carefully to avoid damage, don't drag materials over rough surfaces or each other, don't drag tools over material and protect from swarf.

**Note 2:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

## PURLIN SPACINGS

**Note:**
It is important to reduce purlin spacings by 20% when spring curving a roof.

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | mm | mm | mm |
| Single Span | 1 400 | 1 700 | 1 000 |
| End Span | 1 600 | 1 900 | 900 |
| Internal/Double Span | 1 800 | 2 100 | 1 200 |
| Cantilever (Unstiffened) | 150 | 150 | 100 |
| Cantilever (Stiffened) | 300 | 300 | 200 |
| **SIDE CLADDING** | | | |
| Single Span | 1 800 | 2 100 | 1 500 |
| End Span | 1 900 | 2 200 | 2 100 |
| Internal Span | 2 100 | 2 500 | 2 300 |
| Cantilever | 300 | 400 | 200 |
| Approximate Mass/m² | 5.4kg | 6.2kg | 2.9kg |

**Saflok 410 clips are calculated at 140g per clip - require approximately 3 clips per m².**

Also available in 0.8mm Rheinzink material.

Other gauges are available on special request.

Please contact our technical division for additional information or technical data.

| DRAINAGE TABLE | ROOF SLOPE | | | | |
|---|---|---|---|---|---|
| RAINFALL INTENSITY MM/HOUR | 2° | 3° | 5° | 8° | 10° |
| 250 | 75 | 90 | | | |
| 300 | 65 | 75 | 95 | | |
| 400 | 50 | 55 | 70 | 80 | 90 |
| 500 | 40 | 45 | 55 | 65 | 70 |
| Maximum roof run for roof slopes and rainfall intensities shown. | | | | | |

Span tables are for SAFLOK 410 with light foot traffic only. Span tables are based on 1.5kN downward point load, and 1.6kPa upward pressure. The span tables are maximum recommended spans based on buildings up to 10m high for a basic design wind speed of 28m/s, Terrain Category C.

For further clarity on terrain categories, and wind speeds, please refer to the Safintra Design and Installation Manual (specifically pages 5,6 and 10,11).

## SAFLOK 410 CLIP

## FASTENERS

Where insulation is to be installed, you may need to increase the length of the fasteners given below, depending on the density and thickness of the insulation. When the fastener is properly tightened:

- into metal: there should be at least three threads protruding past the purlin you are fixing to, but the shankguard must not reach that purlin.
- into timber: the fastener must penetrate the timber by the same amount that the recommended fastener would do if there were no insulation.

## CURVING

Natural springing occurs at 36m radius in the convex and 60m radius in the concave. It is important to reduce purlin spacings by 20% when spring curving a roof.

## SEALED JOINTS

For sealed joints use fasteners or rivets and neutral-cure silicone sealant branded as suitable for use with AZ steel.

## 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 will damage the sheet as it leaves the mill, and again when bending to settle onto the roof. The sheeting cannot be roll formed onto a building higher than 10m.

## CONCEALED FIX ROOFING INTRODUCTION

Saflok and Newlok (unseamed) are both concealed fix or secret fix profiles as the anchoring system is not visible, which provides unrestrained thermal expansion or contraction.

The difference between concealed fix and standing seam (Newlok) is that the Newlok profile can be seamed either mechanically or by hand, giving it additional wind uplift strength.

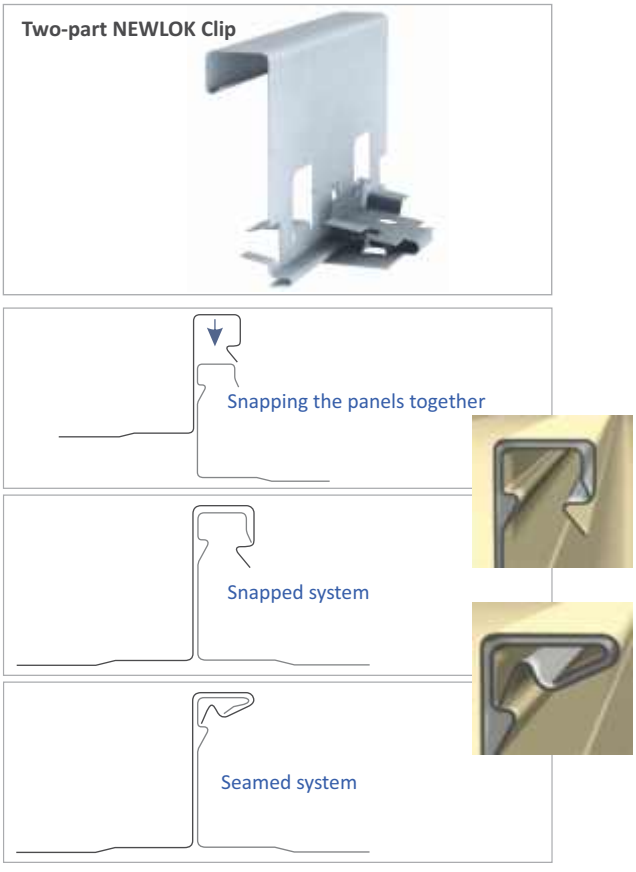
Concealed fix roofing (also referred to as secret fix), is designed for very low pitched roofs. Because clips under the sheet hold it down, the sheet is not punctured with fasteners, and remains completely watertight even at a very low slope. The securing clips are fixed over the male rib of the previous sheet and fastened to the purlins, and the female rib of the next sheet is mechanically snapped over the clip.

As a concealed fix sheet can also expand and contract with the clips as the temperature changes, this system is ideal for long spans on industrial and commercial buildings.

## CLIPPING SYSTEM

The NEWLOK clip incorporates a two-part component to positively hold down the male-female joint on every rib. It also incorporates a sliding halter to allow for thermal movement.

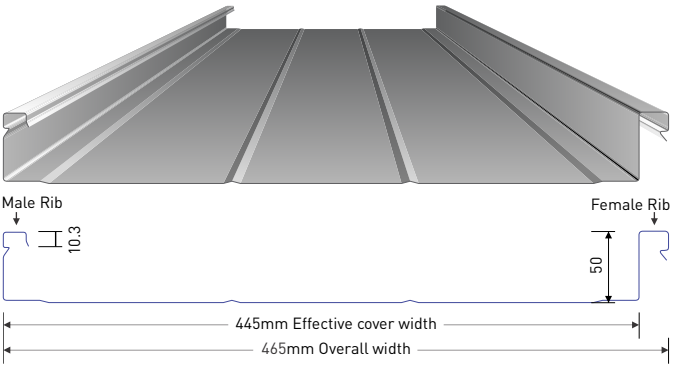
*Seaming is recommended for Industrial and Commercial applications. For residential purposes, a snapped configuration is adequate due to reduced loadings.




## NEWLOK PRODUCT DESCRIPTION

NEWLOK is a concealed fix, standing seam sheet profile with an effective cover width of 445mm, and a height of 50.8mm. It is designed for use on low pitched roofs and can withstand high wind conditions and has commercial, industrial and residential applications.

NEWLOK'S unique interlocking clipping system incorporates a concealed clip to positively hold down the male-female joint at every rib. The profile is usually roll formed on mobile mills on the building site, in lengths of up to 120m. The two-part clip allows for natural thermal expansion and contraction of the sheet, and the 50mm rib height delivers optimal water shedding capabilities at slopes as low as 1.5 degrees.

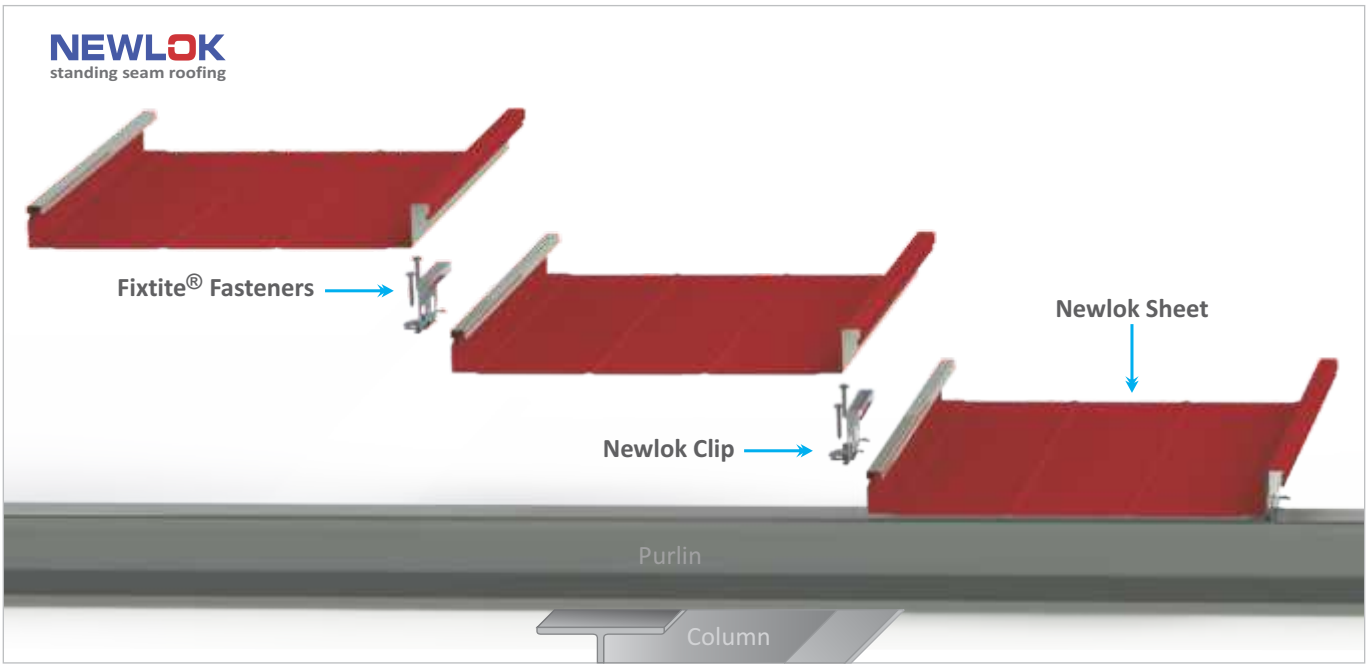



## NEWLOK FEATURES AND BENEFITS

- Unique profile offers either a snap-together or a snap-and-seam interlocking mechanism for optimum wind stability
- Exceptional hold down strength, in excess of 3kPa hold down on negative wind uplift on the seamed profile.
- Interlocking system allows natural thermal expansion and contraction, without unclipping between purlin supports
- Concealed fasteners provide increased security, as roof sheets cannot easily be removed from the outside
- Wide purlin supports for economical design

## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550 | 0.50 0.55 |
| Unpainted or pre-painted | |
| **Aluminium** | **Gauge (mm)** |
| Aluminium | 0.80 |
| Unpainted or pre-painted | |




## PURLIN SPACINGS

Purlin Spacing is dependant on both downward loading and negative suction loading caused by wind. Your engineer should be consulted to calculate your load (kN/m²) for your particular application.

Span tables are for NEWLOK with light foot traffic only. Span Tables are based on 1.5kN downward pressure, 1.6kPa upward pressure and 0.75kPa for the side cladding, inward or outward.

The span tables are for a maximum of recommended spans based on buildings up to 10m high in medium wind zone, Terrain Category B.

**ROOFS:**
Cpi=+0.20, Cpe=-0.90, Kl=2.0 for single and end spans, Kl=1.5 for internal Spans.

**WALLS:**
Cpi=-0.20, Cpe=-0.65, Kl=2.0 for single and end spans, Kl=1.5 for internal Spans. These spacings may vary by serviceability and strength limit stated for particular projects.

| | WIND LOADING | | POINT LOAD | | GAUGE | | |
|---|---|---|---|---|---|---|---|
| | *ASTE 1592-01 | | | | 0.5mm | 0.55mm | 0.8mm |
| MATERIAL | 0.55mm Negative wind pressure (Unfactored) | 0.55mm Negative wind pressure‡ | 0.55mm Live point load (Unfactored) | 0.55mm Live point load‡ | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | kPa | kPa | | kN | mm | mm | mm |
| End Span | 3.597 | 2.767 | | 1.5 | 1 300 | 1 600 | 900 |
| Internal/Double Span | 3.284 | 2.526 | | 1.5 | 1 500 | 1 800 | 1 400 |
| Cantilever (Unstiffened) | - | - | | - | 150 | 150 | 100 |
| Cantilever (Stiffened) | - | - | | - | 300 | 300 | 200 |
| **SIDE CLADDING** | | | | | | | |
| Single Span | 3.027 | 2.329 | | - | 1 700 | 2 000 | 1 400 |
| End Span | 2.916 | 2.243 | | - | 1 800 | 2 100 | 1 600 |
| Internal Span | 2.548 | 1.960 | | - | 2 100 | 2 500 | 1 900 |
| Cantilever | - | - | | - | 300 | 300 | 300 |
| Approximate Mass/m² | - | - | | - | 5.4kg | 6.2kg | 2.9kg |

**NEWLOK clips are calculated at 110g per clip - require approximately 3 clips per m².**
**‡Factored ultimate loading (SANS 10237 - reduction factor of 1.3)**

**Note:**
It is important to reduce purlin spacings by 20% when spring curving a roof.

## SAMPLE SPECIFICATION

Safintra NEWLOK, roll-formed in 0.50mm Colorplus® AZ150, and snap-locked or snap locked and seamed roof sheeting, fixed to steel internal purlins at 1500mm, and steel ridge/eaves purlins at 1300mm centres using NEWLOK clips which must be screw fixed to purlins with Fixtite® or Safintra approved wafer head self-tapping screws, all in accordance with manufacturer's recommendations.

The roof sheeting shall be manufactured by Safintra Roofing, roll-formed in continuous lengths and cut to length from Aluminium or Aluminium-Zinc coated steel.

The profile shall be roll formed with 2 ribs of 50.8mm and a cover width of 445mm. Two stiffening ribs shall be incorporated in the pan.

## LENGTH

With the aid of a mobile rolling mill, custom lengths can be rolled on-site. To date the longest continuous sheets in South Africa have been in the region of 130m long. Off-site rolled sheets are cut to transportable lengths (approximately 12m).

NEWLOK Mobile Mill

Mechanical Seamer

90º Hand Crimper

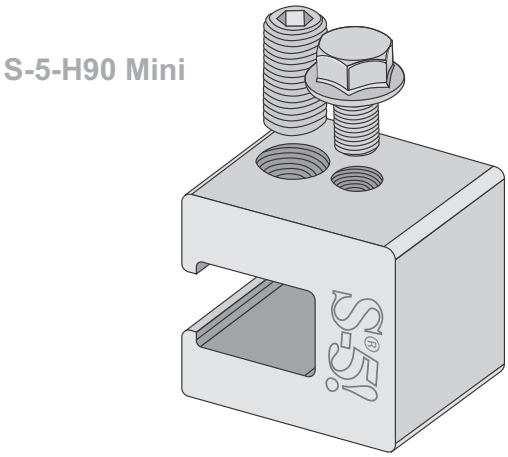
| AVAILABLE TESTING | DESCRIPTION | RESULT |
|---|---|---|
| ASTM E-1592 | 1 Foot and 5 Foot Wind Test | The max. sustained test pressure was -3.735kPa for 1 foot & -12.942kPa for 5 foot. |
| ASTM E-1680 | Air Leakage Test | Air Infiltration @ 7.665kPa has leakage of 2.631 x 10-6 $m^3$/min per $m^2$ & 0.017$m^3$/min per m.<br>Air Infiltration @ 30.466kPa has leakage of 5.261 x 10-6 $m^3$/min per $m^2$ & 0.026 x 10-3$m^3$/min per m. |
| ASTM E-1646 | Water Penetration Test | Water penetration @ 30.466kPa has no water leakage. |
| FM 4471 | Foot Traffic Test (Pending) | Results Pending. |

## NEWLOK ROOFING WITH S-5 CLAMPS

Top quality clamps, such as the S-5 range, may be attached to the ribs without penetrating the roof sheet, thus preserving metal material warranties as well as installation warranties on water-tightness.

The S-5 H90 Mini clamp (pictured) is ideal for the NEWLOK profile, particularly for light weight attachments such as solar arrays, satellite dishes, walkways and mechanical equipment.

S-5 H90 Mini clamp affixed to a trapezoidal standing seam profile.




**Note 1:**
Note that when using Newlok Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

### RAIL ATTACHMENT OF SOLAR PV PANELS

In some cases, rails may be required to maximise space, but at a premium cost of substructure. Even in this instance, the rails can be attached using S-5, with zero penetration of the roof sheet.

### DIRECT ATTACHMENT

Direct attachment maximises economy, removing the need for expensive railing. The S-5 PV attachment unit has a Mid-Fix option (pictured above) and End-Fix option to accommodate any solar array design.

Disclaimers:

- Test results available on S-5 website
- S-5 H90 mini clamps are suitable for seamed profiles only
- S-5 H-Clamp available ex USA for unseamed NEWLOK

# CONCEALED FIX FLASHINGS AND CLOSURES

Flashings and closures are made for particular applications and locations on the roof, with variations to suit the specific profile being used.

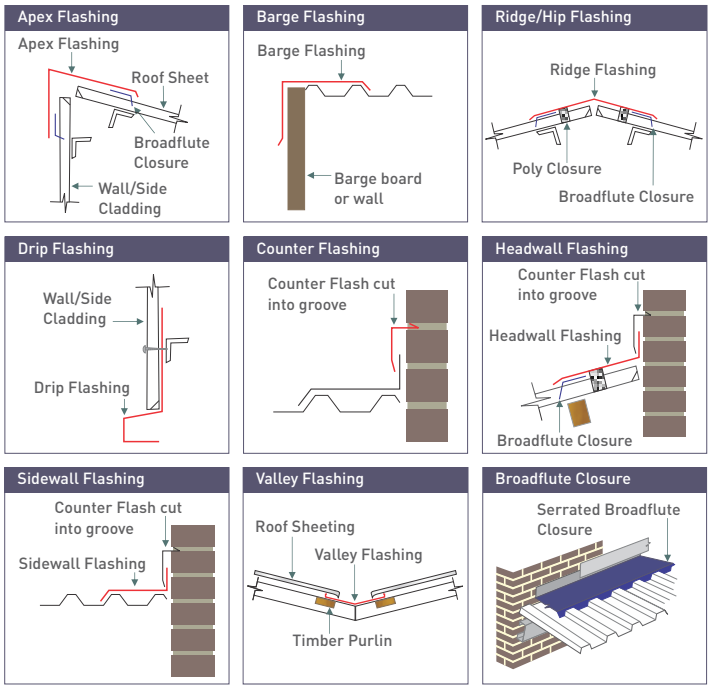
Industrial and commercial flashings tend to be functional more than aesthetic, and Safintra makes a range of standard flashings which are suitable for this purpose.

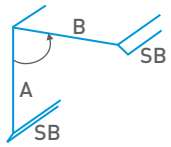
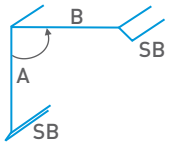
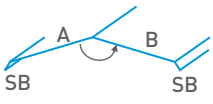
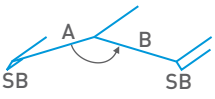
Residential flashings however, usually have an important aesthetic role which necessitates that they are designed for the structure in question.

Safintra is able to produce most custom designed flashings for residential and other applications- please ask your local branch for more information.

Flashings are usually made in the same material as the roof, for colour matching. Safintra flashings are offered in Aluminium-Zinc coated steel and Aluminium.

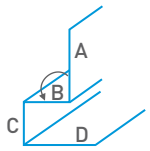
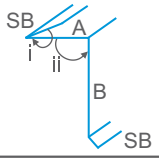
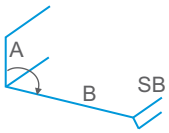
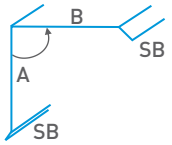
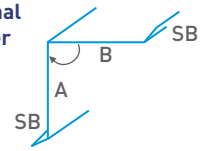
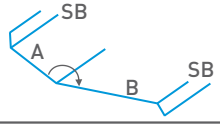
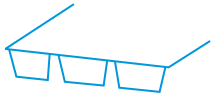
Please speak to our flashings departments for further guidance and technical assistance.




| CONCEALED FIX | | SAFLOK 700 concealed fix roofing | SAFLOK 410 concealed fix roofing | NEWLOK standing seam roofing |
|---|---|---|---|---|
| **Apex Flashing**   | Dimensions (A x B) | 330 x 330 | 330 x 330 | 330 x 330 |
| | Angle | As required | | |
| | Girth | 660 | 660 | 660 |
| **Barge Flashing**   | Dimensions (A x B) | 330 x 330 x 38 | 330 x 240 x 38 | 330 x 330 x 48 |
| | Angle | 90° | 90° | 90° |
| | Girth | 660 | 570 | 708 |
| **Ridge Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 140° | 140° | 140° |
| | Girth | 462 | 462 | 462 |
| | Comments | Use with broad flute closure. | | |
| **Hip Cap**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 128° | 128° | 128° |
| | Girth | 462 | 462 | 462 |
| | Comments | Use with broad flute closure. | | |

SAFINTRA
world class roofing systems

# CONCEALED FIX FLASHINGS AND CLOSURES

| CONCEALED FIX | | SAFLOK 700 concealed fix roofing | SAFLOK 410 concealed fix roofing | NEWLOK standing seam roofing |
|---|---|---|---|---|
| **Drip Flashing**   | Dimensions (A x B x C x D) | 111 x 60 x 25 x 35 | 111 x 60 x 25 x 35 | 111 x 60 x 25 x 35 |
| | Angle | 92° | 92° | 92° |
| | Girth | 231 | 231 | 231 |
| **Counter Flashing**   | Dimensions (A x B) | 13 x 30 x 142 | 13 x 30 x 142 | 13 x 30 x 142 |
| | Angle | 88° | 88° | 88° |
| | Girth | 185 | 185 | 185 |
| **Headwall Flashing***   | Dimensions (A x B) | 154 x 308 | 154 x 308 | 154 x 308 |
| | Angle | As required | | |
| | Girth | 462 | 462 | 462 |
| **Side Wall Flashing**   | Dimensions (A x B) | 154 x 270 x 38 | 154 x 240 x 38 | 154 x 270 x 48 |
| | Angle | 90° | 90° | 90° |
| | Girth | 462 | 432 | 470 |
| **External Corner**   | Dimensions (A x B) | 330 x 330 x 38 x 38 | 330 x 330 x 38 x 38 | 330 x 330 x 48 x 48 |
| | Angle | 90° | 90° | 90° |
| | Girth | 736 | 736 | 756 |
| **Internal Corner**   | Dimensions (A x B) | 330 x 330 x 38 x 38 | 330 x 330 x 38 x 38 | 330 x 330 x 38 x 38 |
| | Angle | 90° | 90° | 90° |
| | Girth | 736 | 736 | 736 |
| **Valley Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 140° | 140° | 140° |
| | Girth | 462 | 462 | 462 |
| **Under-Over Flashing**   | Dimensions (A x B) | 150 x 287 | 150 x 287 | 150 x 287 |
| | Angle | 128° | 128° | 128° |
| | Girth | 437 | 437 | 437 |
| **Broadflute Closure**  | Length Of Closure | 700 | 820 | 445 |
| | Comments | Need one closure per roof sheet. | | |

All dimensions given in millimetres.

Diagrams are for illustrative purposes only.

Note: 0.8mm Z-support flashings is recommended for use with Newlok.

*To be used with broadflute poly/metal closures.

# SAFLOK 700
## concealed fix roofing

# LOCKS DOWN YOUR ROOF


## The most advanced wide-coverage concealed fix system on the market

- Cover width of 700mm per sheet for fast, cost effective installation
- Re-engineered clips ensure superb sheet engagement at every rib, and total stability at the male-female lap
- Deep pans for excellent water run off, even at 2 degree pitch
- Saflok components include detailing for high wind loads and structurally challenging installations
- Can be rolled on-site in lengths up to 120 metres

**South African operations:-** Johannesburg, Cape Town, Durban, Port Elizabeth, Polokwane, Nelspruit & Bloemfontein. *www.safintra.co.za*

**Additional operations in Africa include:-** Namibia, Botswana, Mozambique, Malawi, Zambia, Angola, Tanzania & Kenya, amongst others. *www.safintra.com*

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# PIERCED FIX ROOFING SYSTEMS

classicorr corrugated

TUFDEK iBR

WIDEDEK

FLUTELINE

Trimflute

## PIERCED FIX FLASHINGS AND CLOSURES

VERSATILE

## PRODUCT DESCRIPTION & FEATURES

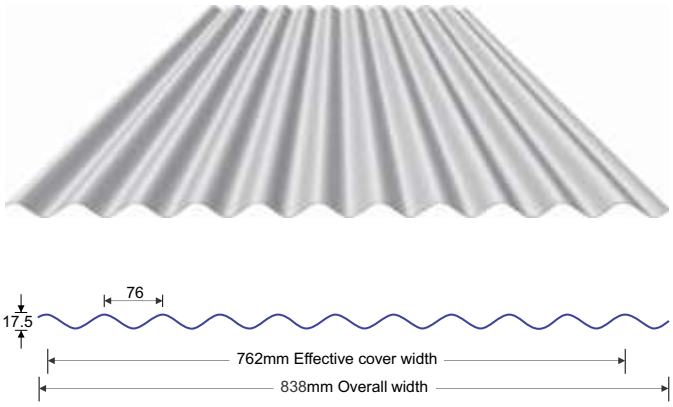
The Corrugated profile is sinusoidal and can be used as roofing and cladding material. With its origins dating back to the Victorian era, it is probably the most commonly known sheeting profile used in the world today. The fact that the corrugated profiled sheeting has been around since before the turn of the century proves that this easy to use and effective profile for roofing and wall cladding is here to stay.

- Corrugated sheets can be factory cranked, curved and bullnosed to a wide range of radii. For further details contact our Technical Department.

## SAMPLE SPECIFICATION

Safintra 0,5mm thick, AZ150 ZincAl® Corrugated Profile Roof Sheeting, fixed to intermediate timber purlins at 1100mm centres and to ridge and eaves purlins at 900mm centres, with 12 x 45mm Fixtite® or Safintra approved Hex Head self-drilling screws. Sheets to be fixed with three fasteners per sheet per purlin. All in accordance with the manufacturers recommendations.

The sheeting will be the Corrugated Profile as manufactured by Safintra Roofing. The rib height shall be 17.5mm and shall be fixed in accordance with the manufacturer's recommendations.




## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ150/G550<br>Unpainted or pre-painted | 0.50 0.55 |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |
| **Rheinzink** | **Gauge (mm)** |
| | 0.80 |

Other gauges are available on special request.

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

**Note 2:**
Safintra recommends the use of Fixtite or Safintra approved Class 4 fasteners

## PURLIN SPACINGS

Purlin Spacings are dependant on both downward loading and negative suction loading caused by wind. Your engineer should be consulted to calculate your load (kN/m²) for your particular application.

Roof applications

## PURLIN SPACINGS

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | mm | mm | mm |
| Single Span | 600 | 700 | 800 |
| End Span | 900 | 1 200 | 850 |
| Internal/Double Span | 1 100 | 1 700 | 1 000 |
| Cantilever (Unstiffened) | 200 | 250 | 200 |
| Cantilever (Stiffened) | 300 | 350 | 250 |
| **SIDE CLADDING** | | | |
| Single Span | 1 200 | 1 500 | 1 200 |
| End Span | 1 350 | 1 800 | 1 300 |
| Internal Span | 1 800 | 2 400 | 1 500 |
| Cantilever | 200 | 250 | 300 |
| Approximate Mass/m² | 3.45kg | 4.19kg | 2.9kg |

Also available in 0.8mm Rheinzink material.
Other gauges are available on special request.
Please contact our technical division for additional information or technical data.

## LENGTHS & ROOF PITCH

When using Corrugated sheeting the recommended minimum roof slope (pitch) for sheets longer than 15m is 15°, and for sheets shorter than 15m the minimum roof slope is 10°.

## TOLERANCES

A length variation range of +/-5,0mm, and width tolerance of +/-3,0mm are permissible

**Note 3:**
Note that when using Classicorr Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

## PRODUCT DESCRIPTION & FEATURES

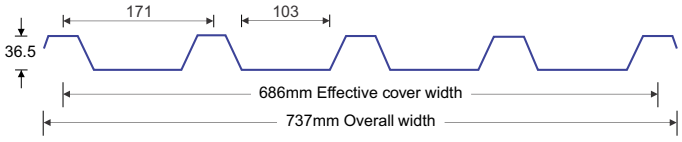
IBR is an abbreviation for Inverted Box Rib, an angular trapezoidal fluted profile sheet with a bold appearance which makes it both attractive and practical. Since IBR was introduced to the South African market in 1958, it has become the most popular sheeting used in construction of commercial and industrial buildings.

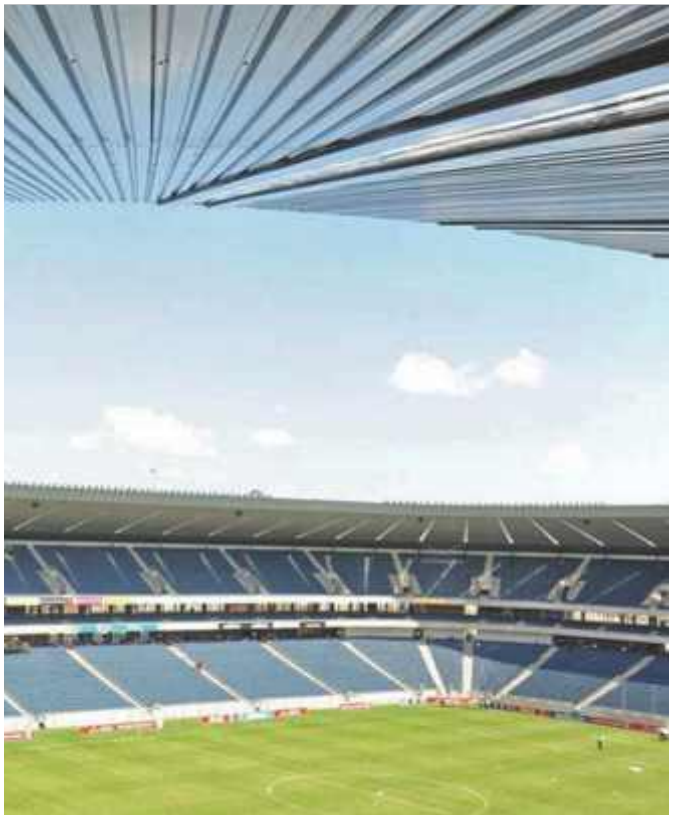
- The general shape and appearance of the trapezoidal flutes ensure that IBR is totally acceptable for use as roof and wallcladding. The deep and broad flutes of the IBR type sheeting ensures excellent drainage characteristics.
- IBR is designed to provide the most advantageous load/span characteristics consistent with economy.
- IBR offers the end user the option of having stiffening ribs in the sheet which help to remove oil canning from the broad flute.
- IBR can be factory cranked, curved and bullnosed to a wide range of radii. For further details contact our Technical Department.

## SAMPLE SPECIFICATION

Safintra 0,47mm thick, AZ 150 ZincAl® IBR profile roof sheeting, fixed to intermediate steel purlins at 1900mm centres and to ridge and eaves purlins at 1650 centres, with 12 x 65mm long Fixtite® or Safintra approved Hex Head self-drilling screws at every second crest, at intermediate purlins and at every crest at eaves purlins side laps to be stitched at 500mm centres between purlins all in accordance with manufacturers recommendations.

The sheeting shall be IBR type profile as manufactured by Safintra Roofing. The profile shall be roll-formed with 5 trapezoidal ribs at 171,5mm, centres witha nett cover of 686mm. The rib height shall be 36,5mm and shall be fixed in accordance with the manufacturer's recommendations.



## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550<br>Unpainted or pre-painted | 0.50 0.55 |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |

Other gauges are available on special request.

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

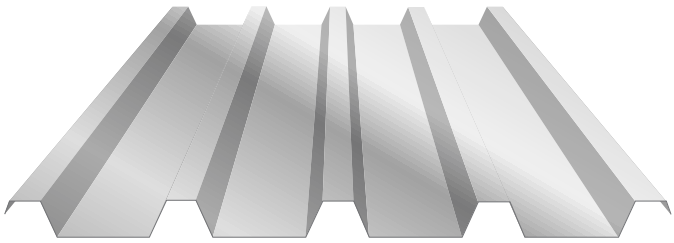
**Note 2:**
Safintra recommends the use of Fixtite or Safintra approved Class 4 fasteners

## PURLIN SPACINGS

Purlin Spacings are dependant on both downward loading and negative suction loading caused by wind. Your engineer should be consulted to calculate your load (kN/m²) for your particular application.

## PURLIN SPACINGS

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | mm | mm | mm |
| Single Span | 1 650 | 1 750 | 1 200 |
| End Span | 1 700 | 1 900 | 1 900 |
| Internal/Double Span | 1 900 | 2 100 | 1 500 |
| Cantilever (Unstiffened) | 200 | 260 | 20 |
| Cantilever (Stiffened) | 300 | 350 | 250 |
| **SIDE CLADDING** | | | |
| Single Span | 2 100 | 2 300 | 1 600 |
| End Span | 2 400 | 2 600 | 2 100 |
| Internal Span | 2 600 | 2 700 | 2 100 |
| Cantilever | 300 | 400 | 300 |
| Approximate Mass/m² | 3.45kg | 4.19kg | 2.9kg |



## LENGTHS & ROOF PITCH

When using IBR sheeting the recommended minimum pitch for roof slopes in excess of 15m is 7.5° and for slopes less than 15m is 5°. IBR sheeting can be ordered in any length, subject to transport limitations, up to 13,2m. Longer lengths require special transport arrangements.

## TOLERANCES

A length variation range of +/-5,0mm, and width tolerance of +/-3,0mm are permissible

**Note 3:**
Note that when using Tufdek Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

## PRODUCT DESCRIPTION & FEATURES

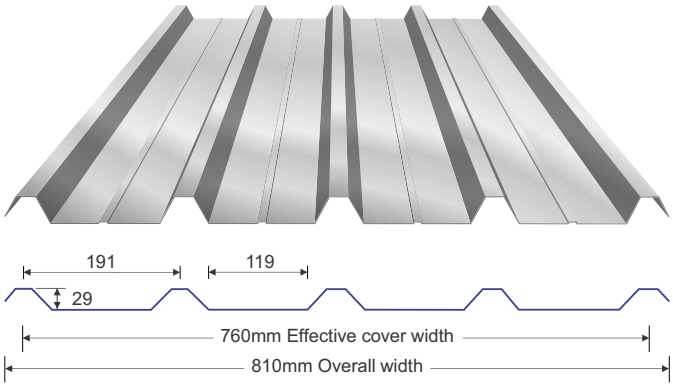
**WIDEDEK®** is an angular trapezoidal fluted sheet and is similar in appearance to IBR profiled sheeting, the difference being the cover width of the sheet, and the depth of the flutes. Widedek sheeting has a cover width of 760mm and the depth of the flutes on Widedek is 29mm. The Widedek profile has a bigger cover width than IBR, resulting in a saving on sheeting. Using this type of sheeting has certain cost saving advantages.

- The Widedek profile has a better cover width than IBR, resulting in a saving of ±10% on sheeting purchased.
- To achieve the same coverage less sheets are required to be erected, thus saving on time and labour.
- The advantage of using Widedek in place of a sinusoidal corrugated profile is its strength. The spanning capacity of Widedek is greater than the corrugated profile thus requiring less purlin also resulting in a further cost saving
- Widedek can be factory cranked, curved and bullnosed to a wide range of radii.

## SAMPLE SPECIFICATION

Safintra 0,5mm thick AZ150 ZincAl® Widedek profile roof sheeting, fixed to intermediate steel purlins at 1600mm centres and to ridge and eaves purlins at 1350mm centres, with 12 x 55mm long Fixtite® or Safintra approved Hex Head self-drilling screws at every second crest at intermediate purlins and every crest at eaves purlins all in accordance with the manufacturer's recommendations.

The sheeting shall be Widedek trapezoidal type profile as manufactured by Safintra Roofing. The profile shall be roll-formed with 5 trapezoidal ribs at 191mm centres with a nett cover of 760mm. The rib height shall be 29mm and shall be fixed in accordance with the manufacturer's recommendations.




## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550<br>Unpainted or pre-painted | 0.50 0.55 |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |

Other gauges are available on special request.

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

**Note 2:**
Safintra recommends the use of Fixtite or Safintra approved Class 4 fasteners

## PURLIN SPACINGS

Purlin Spacings are dependant on both downward loading and negative suction loading caused by wind. Your engineer should be consulted to calculate your load (kN/m2) for your particular application.

## PURLIN SPACINGS

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | mm | mm | mm |
| Single Span | 1 350 | 1 500 | 800 |
| End Span | 1 400 | 1 550 | 850 |
| Internal/Double Span | 1 600 | 1 700 | 1 000 |
| Cantilever (Unstiffened) | 150 | 180 | 150 |
| Cantilever (Stiffened) | 300 | 300 | 200 |
| **SIDE CLADDING** | | | |
| Single Span | 2 000 | 2 300 | 1 200 |
| End Span | 2 100 | 2 400 | 1 300 |
| Internal Span | 2 400 | 2 600 | 1 500 |
| Cantilever | 200 | 300 | 300 |
| Approximate Mass/$m^2$ | 3.45kg | 3.89kg | 2.9kg |

## LENGTHS & ROOF PITCH

When using Widedek sheeting the recommended minimum pitch for roof slopes in excess of 15m is 10° and for slopes less than 15m is 7.5°. Widedek sheeting can be ordered in any length, subject to transport limitations, up to 13,2m. Longer lengths require special transport arrangements.

## TOLERANCES

A length variation range of +/-5,0mm, and width tolerance of +/-3,0mm are permissible

**Note 3:**
Note that when using Widedek Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

**Disclaimer:**
- Care has been taken to ensure that the information provided is accurate. SAFINTRA does not assume responsibility for inaccuracies or misinterpretations of this data.
- SAFINTRA is continuously engaged in product development, please ensure that you have the most recent issue of information from SAFINTRA.
- Photographs and illustrations are typical examples of roofing and cladding products and applications.

## PRODUCT DESCRIPTION & FEATURES

**FLUTELINE®** is an angular trapezoidal fluted profile sheet with similar characteristics to IBR but having an effective cover of 889mm, which is wider than IBR.

- The general shape and appearance of the trapezoidal flutes ensure that Fluteline is totally acceptable for use as roof and wall cladding. The deep and broad flutes of the Fluteline sheeting ensures excellent drainage characteristics, which makes it an ideal sheet for roofing applications.
- Fluteline offers optimum strength-to-weight performance and is designed to provide the most advantageous load/span characteristics ensuring best economical usage.
- Fluteline can be factory cranked, curved and bullnosed to a wide range of radii. For further details contact our Technical Department.

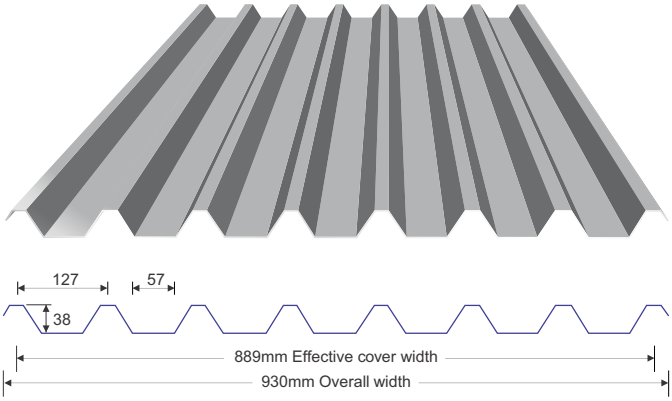
## SAMPLE SPECIFICATION

The sheeting shall be Fluteline profile as manufactured by Safintra Roofing. The profile shall be roll-formed with 8 trapezoidal ribs at 127mm centres with a nett cover of 889mm. The rib height shall be 38mm and shall be fixed in accordance with the manufacturer's recommendations.

Safintra 0,5mm thick, 889mm cover Fluteline Profile ZincAl® AZ150 Roof Sheeting, fixed to steel channel purlins at 2000mm centres and eaves and ridge purlins at 1500mm centres, using 12 x 65mm stainless steel self tapping screws with bonded washer as described at first, third, fourth and sixth crest of each sheet and at all crest and sheet ends. Side laps to be secured using 6 x 20mm stainless steel self tapping screws with bonded washer over purlins and at centres not exceeding 500mm between purlins with minimum 230mm end laps, all in accordance with the manufacturer's recommendations.

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

**Note 2:**
Safintra recommends the use of Fixtite or Safintra approved Class 4 fasteners




## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550<br>Unpainted or pre-painted | 0.50 0.55 |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |

Other gauges are available on special request.

## PURLIN SPACINGS

Purlin Spacings are dependant on both downward loading and negative suction loading caused by wind. Your engineer should be consulted to calculate your load (kN/m²) for your particular application.

## PURLIN SPACINGS

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | mm | mm | mm |
| Single Span | 1 900 | 1 950 | 1 500 |
| End Span | 2 000 | 2 100 | 1 550 |
| Internal/Double Span | 2 450 | 2 650 | 2 100 |
| Cantilever (Unstiffened) | 400 | 600 | 450 |
| Cantilever (Stiffened) | 500 | 700 | 550 |
| **SIDE CLADDING** | | | |
| Single Span | 3 300 | 3 350 | 2 400 |
| End Span | 3 400 | 3 450 | 2 500 |
| Internal Span | 3 750 | 3 900 | 3 000 |
| Cantilever | 200 | 300 | 450 |
| Approximate Mass/m² | 4.6kg | 4.64kg | 5.52kg |

## LENGTHS & ROOF PITCH

When using Industrial 7 sheeting the recommended minimum pitch for roof slopes in excess of 15m is 7.5° and for slopes less than 15m is 5°. Industrial 7 sheeting can be ordered in any length, subject to transport limitations, up to 13,2m. Longer lengths require special transport arrangements.

## TOLERANCES

A length variation range of +/-5,0mm, and width tolerance of +/-3,0mm are permissible

**Note 3:**
Note that when using Fluteline Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

**Disclaimer:**
- Care has been taken to ensure that the information provided is accurate. SAFINTRA does not assume responsibility for inaccuracies or misinterpretations of this data.
- SAFINTRA is continuously engaged in product development, please ensure that you have the most recent issue of information from SAFINTRA.
- Photographs and illustrations are typical examples of roofing and cladding products and applications.

## PRODUCT DESCRIPTION & FEATURES

**TRIMFLUTE®** is a subtle square fluted profile. The long flute gives the profile its strength with long spanning capabilities. Trimflute can be used as a roofing as well as a cladding profile.

- The square flutes of Trimflute type sheeting ensure excellent drainage characteristics.
- The contemporary appearance of Trimflute is aesthetically appealing.
- Trimflute can be factory cranked, curved and bullnosed to a wide range of radii. For further details contact our Technical Department.

## SAMPLE SPECIFICATION

The sheeting shall be Trimflute type profile as manufactured by Safintra Roofing. The profile shall be roll-formed with 6 trapezoidal ribs at 203 mm, centers with a net cover of 1015 mm. The rib height shall be 26.5 mm and shall be fixed in accordance with the manufacturer's recommendations.

Safintra 0.50 mm thick, ZincAl® AZ 150 Trimflute Profile Roof Sheeting, fixed to internal steel purlins at 1600 mm centers and to ridge and eaves purlins at 1400 centers, with Fixtite® or Safintra approved 12 x 65mm long Hex Head self-drilling screws at every second crest, internal purlins and every crest. Eaves purlins side laps to be stitched at 500 mm centers between purlins all in accordance with manufacturers recommendations.

## FASTENING

Trimflute is pierce-fixed to timber or steel supports. This means that fastener screws pass through the sheeting. You can place screws for Trimflute through the crests or in the valleys. To maximise water tightness, always place roof screws through the crest. For walling, you may use either crest or valley fixing. Always drive the screws perpendicular to the sheeting, and in the centre of the corrugation or rib. Don't place fasteners less than 25 mm from the ends of sheets.

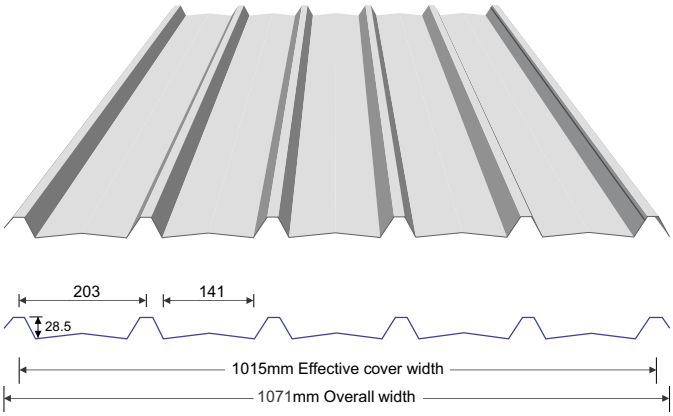
The edge of Trimflute with the anti-capillary groove is always the under-lap. It is generally considered good practice to use fasteners along side-laps however, when cladding is supported as indicated in purling spacings, side-lap fasteners are not usually needed for strength.

End-laps are not usually necessary because Trimflute is available in long lengths. If you want endlaps, seek advice from your nearest Safintra office on the sequence of laying and the amount of overlap. When Trimflute is laid on slopes of 7.5 degrees or more, cut back the corner of the undersheet, at the downhill end of the sheet to block capillary action.

## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ100/150/200 G550<br>Unpainted or pre-painted | 0.50 0.55 |
| **Aluminium** | **Gauge (mm)** |
| Aluminium Mill Finish | 0.80 |
| Aluminium G4 Colortech | 0.80 |

Other gauges are available on special request.



## PURLIN SPACINGS

Purlin Spacings are dependant on both downward loading and negative suction loading caused by wind. Your engineer should be consulted to calculate your load (kN/m²) for your particular application.

| GAUGE | 0.5mm | 0.55mm | 0.8mm |
|---|---|---|---|
| MATERIAL | ALUMINIUM-ZINC | ALUMINIUM-ZINC | ALUMINIUM |
| **ROOFS** | mm | mm | mm |
| Single Span | 1 350 | 1 500 | 800 |
| End Span | 1 400 | 1 550 | 850 |
| Internal/Double Span | 1 600 | 1 700 | 1 000 |
| Cantilever (Unstiffened) | 150 | 180 | 150 |
| Cantilever (Stiffened) | 300 | 300 | 200 |
| **SIDE CLADDING** | | | |
| Single Span | 2 000 | 2 300 | 1 200 |
| End Span | 2 100 | 2 400 | 1 300 |
| Internal Span | 2 400 | 2 600 | 1 500 |
| Cantilever | 200 | 300 | 300 |
| Approximate Mass/m² | 4.5kg | 4.93kg | 3.9kg |

## LENGTHS & ROOF PITCH

When using Trimflute sheeting the recommended minimum pitch for roof slopes in excess of 15m is 10° and for slopes less than 15m is 7,5°. Trimflute sheeting can be ordered in any length, subject to transport limitations, up to 13,2m. Longer lengths require special transport arrangements.

## TOLERANCES

A length variation range of +/-5,0mm, and width tolerance of +/-3,0mm are permissible

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

**Note 2:**
Safintra recommends the use of Fixtite or Safintra approved Class 4 fasteners

**Note 3:**
Note that when using Trimflute Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

**Disclaimer:**
- Care has been taken to ensure that the information provided is accurate. SAFINTRA does not assume responsibility for inaccuracies or misinterpretations of this data.
- SAFINTRA is continuously engaged in product development, please ensure that you have the most recent issue of information from SAFINTRA.
- Photographs and illustrations are typical examples of roofing and cladding products and applications.

# PIERCED FIX FLASHINGS AND CLOSURES

Flashings and closures are made for particular applications and locations on the roof, with variations to suit the specific profile being used.

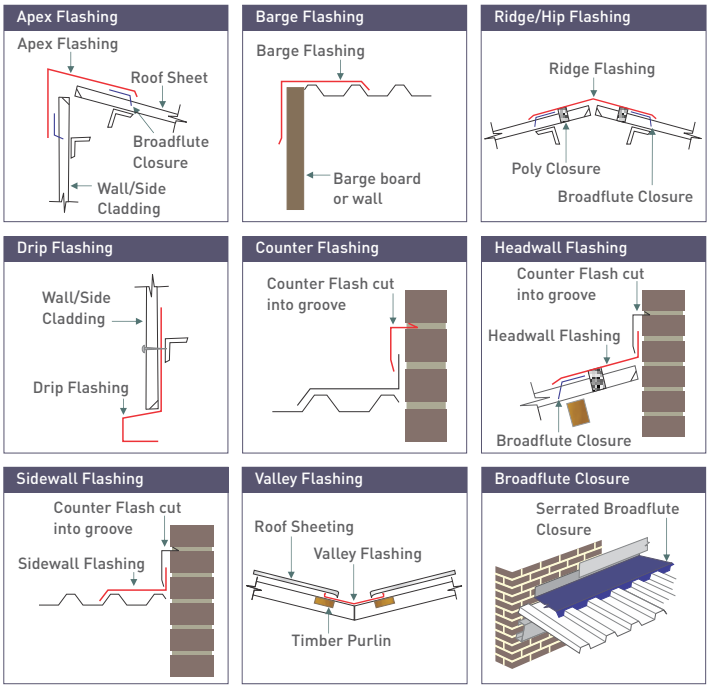
Industrial and commercial flashings tend to be functional more than aesthetic, and Safintra makes a range of standard flashings which are suitable for this purpose.

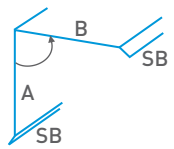
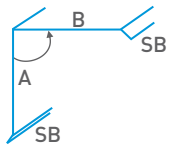
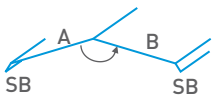
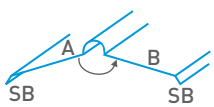
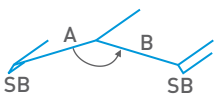
Residential flashings however, usually have an important aesthetic role which necessitates that they are designed for the structure in question.

Safintra is able to produce most custom designed flashings for residential and other applications- please ask your local branch for more information.

Flashings are usually made in the same material as the roof, for colour matching. Safintra flashings are offered in Aluminium-Zinc coated steel and Aluminium. All counter flashings are sealed with silicone - not cement.

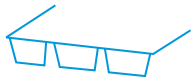
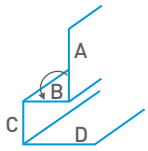
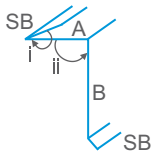
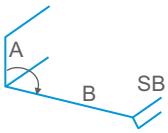
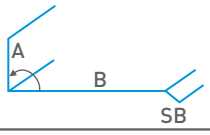
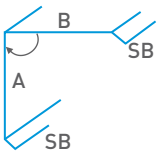
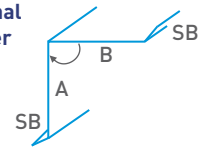
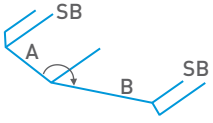
Please speak to our flashings departments for further guidance and technical assistance.




| PIERCED FIX | | TUFDEK | WIDEDEK | FLUTELINE | Trimflute | classicorr corrugated |
|---|---|---|---|---|---|---|
| **Apex Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | As required | | | | |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| **Barge Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 300 | 217 x 245 | 231 x 231 |
| | Angle | 90° | 90° | 90° | 90° | 90° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| **Ridge Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 140° | 140° | 140° | 140° | 140° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| | Comments | Use with fluted closure. | | | No closure. | |
| **Roll Top Ridge Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 140° | 140° | 140° | 140° | 140° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| | Comments | Use with fluted closure. | | | No closure. | |
| **Hip Cap**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 128° | 128° | 128° | 128° | 128° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| | Comments | Use with fluted closure. | | | No closure. | |

SAFINTRA
world class roofing systems

# PIERCED FIX FLASHINGS AND CLOSURES

| PIERCED FIX | | TUFDEK IBR | WIDEDEK | FLUTELINE | Trimflute | classicorr corrugated |
|---|---|---|---|---|---|---|
| **Broad Flute Closure**  | Length of closure | 686 | 760 | 889 | N/A | N/A |
| | Comments | Need one closure per roof sheet. | | | No closure | |
| **Drip Flashing**   | Dimensions (A x B x C x D) | 60 x 50 x 20 x 24 | 111 x 60 x 25 x 35 | 60 x 50 x 20 x 24 | 111 x 60 x 25 x 35 | 111 x 60 x 25 x 35 |
| | Angle | 92° | 92° | 92° | 92° | 92° |
| | Girth | 154 | 231 | 154 | 231 | 231 |
| **Counter Flashing**   | Dimensions (A x B) | 30 x 112 | 30 x 112 | 30 x 112 | 30 x 112 | 30 x 112 |
| | Angle | (i)22.5° (ii)88° | (i)22.5° (ii)88° | (i)22.5° (ii)88° | (i)22.5° (ii)88° | (i)22.5° (ii)88° |
| | Girth | 154 | 154 | 154 | 154 | 154 |
| **Headwall Flashing**   | Dimensions (A x B) | 75 x 231 | 75 x 231 | 75 x 231 | 75 x 231 | 75 x 231 |
| | Angle | As required | | | | |
| | Girth | 308 | 308 | 308 | 308 | 308 |
| **Side Wall Flashing**   | Dimensions (A x B) | 77 x 221 | 77 x 221 | 75 x 300 | 63 x 245 | 77 x 221 |
| | Angle | 90° | 90° | 90° | 90° | 90° |
| | Girth | 298 | 298 | 298 | 308 | 308 |
| **External Corner**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 90° | 90° | 90° | 90° | 90° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| **Internal Corner**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 90° | 90° | 90° | 90° | 90° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| **Valley Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 128° | 128° | 128° | 128° | 128° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| **Roll Top Valley Flashing**   | Dimensions (A x B) | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 | 231 x 231 |
| | Angle | 140° | 140° | 140° | 140° | 140° |
| | Girth | 462 | 462 | 462 | 462 | 462 |
| **Under-Over Flashing**   | Dimensions (A x B) | 150 x 287 | 150 x 287 | 150 x 287 | 150 x 287 | 150 x 287 |
| | Angle | 128° | 128° | 128° | 128° | 128° |
| | Girth | 437 | 437 | 437 | 437 | 437 |

All dimensions given in millimetres

## PRODUCT DESCRIPTION & FEATURES

Versatile is a premium roofing profile from Safintra Roofing that has the appearance of tiles but the strength and light weight advantage of steel. It is available in a range of colours and in various thicknesses. Local manufacture ensures that Versatile is available in even the smallest quantities, and is a cut to length profile.

All this highlights Versatile as a lightweight, durable and beautiful product that is ideal for the most discerning user.

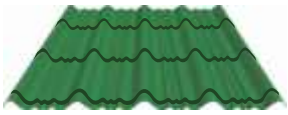
## MATERIAL OPTIONS

| Aluminium - Zinc | Gauge (mm) |
|---|---|
| AZ150 Colour Coated Steel | 0.50 |

Versatile is rolled in soft material only - G275

## ROOF PITCH

Versatile can be used on a roof pitched from as low as 10°.

| | VERSATILE  |
|---|---|
| Material Thickness | 0.50 mm |
| Input Coil Width | 925 mm |
| Profiled Sheet Width (Overall Width) | 825 mm |
| Rib To Rib Width ie: Pitch | 185 mm |
| Depth Of Each Tile (Step To Step) | 300 mm |
| Effective Cover Width | 740 mm |
| Purlin Spacing | 600 mm |
| Ridge Capping | Specialised roll top ridge (roll formed or segmented) made from 462mm (slit) coil in same material as roof sheet |

Available in all standard colours.

## INSTALLING VERSATILE

### ORDERING AND INSTALLING THE SHEETS

Versatile is a "handed"sheet, because the underlap rib has a capillary break which optimises its water-proofing performance. When ordering, please stipulate the direction in which the sheets will be laid ie: left to right, or right to left.
Sheets are always laid into the prevailing weather – this should guide your installation process, which in turn affects the detail of your order.
Please call our technical department for assistance.

### FASTENING SHEETS FOR ROOFS

Versatile is pierce fixed to steel or timber supports. This means that fastener screws pass through the sheeting. To maximize water tightness, always place roof screws through the crest of the sheeting. Always drive the screws perpendicular to the sheeting and in the center of the crest.

### SIDE LAPPING

A standard lap is 1 flute. It is generally considered good practice to use fasteners along side laps.

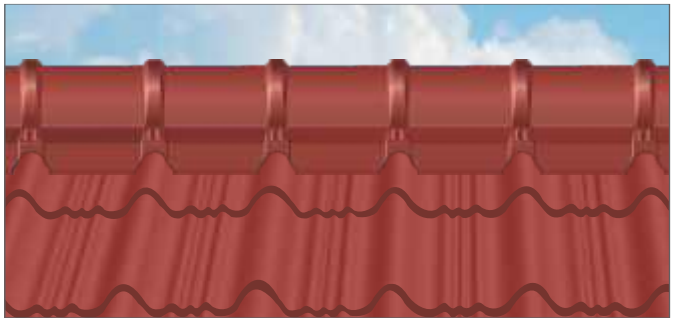
### FASTENERS

Safintra recommends the use of Fixtite or Safintra approved Class 4 fasteners, especially within 5 kilometres of coastline or similar conditions.
Steel: Class 4 #12 x 68mm fastener.
Timber: Class 4 (or type 17) #12 x 90mm fastener.
Side Lapping: Class 4 #14 x 20mm fastener.

## ROLL TOP RIDGES

Versatile is sold as a complete system, with its own distinctive roll top ridges which are designed to complement the profile.
The roll top ridge is notched, to allow it to be bent into the tiles as a closure.
NOTE: The ridges have matching notches on either side.

During installation, ensure that the Versatile sheets are lined up to fit the notches on both sides of the roof. If laying sheets from left to right on the one face, the sheets on the opposite face should be laid starting from the same side.



## CUTTING

For cutting thin metal on site, we recommend a circular saw with a metal cutting blade because it produces fewer damaging hot metal particles and leaves less resultant burr than a carborundum disc.

Cut materials over the ground and not over other materials.

Sweep all metallic swarf and other debris from roof areas and gutters at the end of each day and at the completion of the installation. Failure to do so can lead to surface staining when the metal particles rust.

## SEALED JOINTS

For sealed joints use screws or rivets and neutral-cure silicone sealant branded as suitable for use with Aluminium-Zinc coated steel.

## SAMPLE SPECIFICATION

Roofing/Side Cladding shall be Versatile. The profile shall be roll-formed from certified steel and comply with SABS roofing standards and be fixed to steel / timber in strict accordance with manufacturer's specifications.

The roof/side cladding shall be Safintra Versatile material in 0.5mm ZincAl® or Colorplus® material. Versatile shall be obtained from Safintra Roofing. The profile shall be roll-formed with 4 large corrugations at 185mm centres giving a nett cover of 740mm. The rib height shall be 25.5mm. The steel utilised shall be certified and comply with SABS roofing standards.

## STORAGE AND HANDLING

Keep the product dry and clear of the ground. If stacked or bundled product becomes wet, separate and wipe with a clean cloth to dry thoroughly. Handle materials carefully to avoid damage, don't drag materials over rough surfaces or each other, don't drag tools over material, protect from swarf.

## MAINTENANCE

Optimum product life will be achieved if roofs are washed regularly.

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

**Note 2:**
Note that when using Versatile Aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

## CRANKING OF PROFILED SHEETING

Cranking of a profiled sheet incorporates lateral rib indentations pressed in at uniform distances which vary according to the radius requirements.

Cranked sheets can be supplied in standard radii as follows:

| PROFILE | MINIMUM RADIUS (INSIDE CURVE) |
|---|---|
| SAFLOK | 450mm |
| WIDEDEK | 350mm |
| IBR | 350mm |
| CORRUGATED | 350mm |
| FLUTELINE | 350mm |

NB. Negative (Reverse) Cranking on SAFLOK cannot be performed due to the nature of the profile.
Please contact the manufacturer if any clarification is required.

When ordering cranked sheets, details should be given using our standard information sheet - please contact our technical department at your nearest branch.

## EXPANSION

It should be noted that Aluminium has an expansion co-efficient which is twice that of conventional steel substrates. If the sheet is to be bullnosed on one end, then expansion must be allowed for in the opposite direction.

With the use of Saflok 700 this problem is reduced due to the fact that the profile will slide on the clip.

NB. Profiles can be cranked in Full Hard and commercial quality material but only to a minimum radius of 400mm.
SAFLOK 700 to a minimum of a 450mm radius.

## STANDARD CRANK

Normally with the narrow flute uppermost and the bend away from the angular inclination.

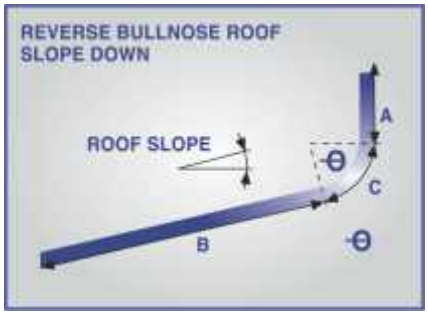
## REVERSE CRANK

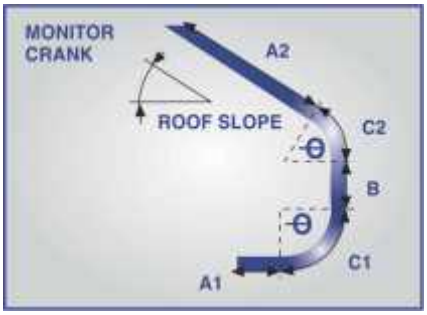
Normally with the narrow flute downward and the bend into the narrow flute. Applies to pierced fix profiles only.

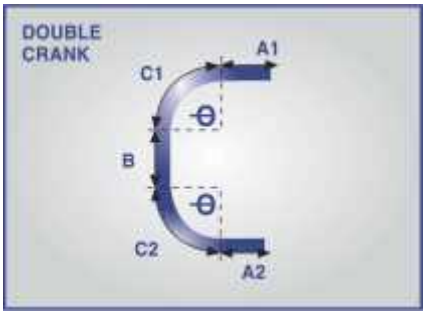
These drawings show the various types of bullnosing and cranking available on Safintra sheeting. Before production may commence, we will require a detailed drawing giving all the required data, and duly authorized by the customer.

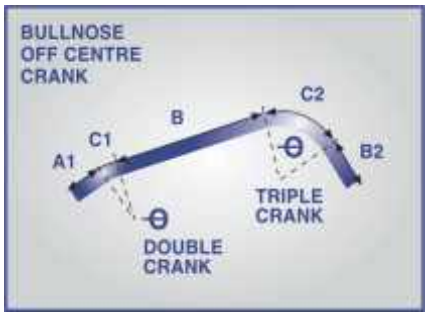
**Note:**

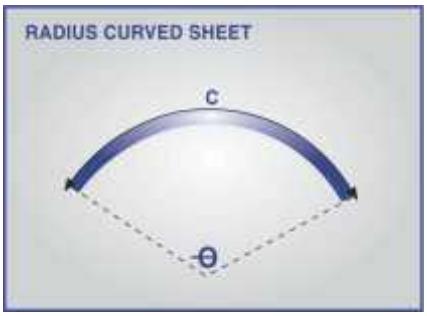
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

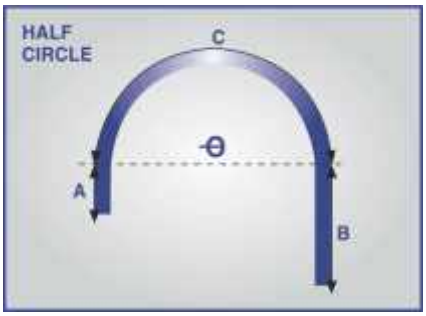


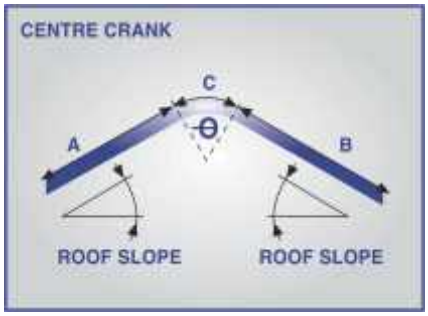



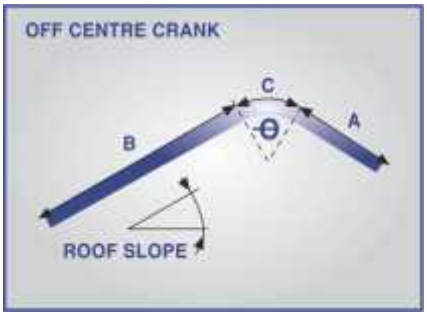



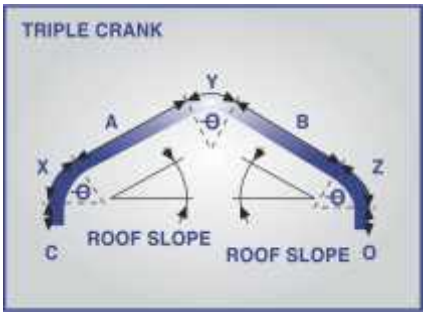



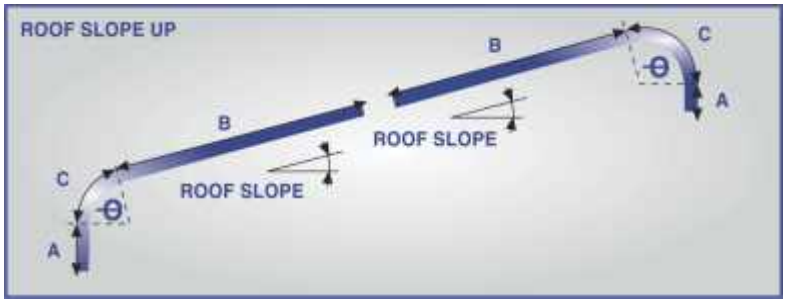




**MINIMUM RADII FOR NATURALLY SPRUNG SHEETING**

| CONVEX | | CONCAVE | |
|---|---|---|---|
| Saflok | - 36 metres | Saflok | - 60 metres |
| IBR | - 28 metres | IBR | - 60 metres |
| Widedek | - 26 metres | Widedek | - 55 metres |
| Corrugated | - 23 metres | Corrugated | - 23 metres |
| Fluteline | - 36 metres | Fluteline | - 60 metres |

**Disclaimer:**

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- SAFINTRA is continuously engaged in product development, please ensure that you have the most recent issue of information from SAFINTRA.
- Photographs and illustrations are typical examples of roofing and cladding products and applications.

## TRANSPORTATION

Safintra profiles can be supplied in any length, limited only by handling and transport ordinance regulations. The normal length that can be transported by road is 13.2 metres. Saflok 700 and 410 is rolled on-site to any length required.

## STORAGE

### WET STORAGE STAIN

Steel sheets are normally treated with a special chromate solution, under strictly controlled conditions (i.e. the sheet is passivated) before leaving the Mill. Although this process ensures long and satisfactory protection to sheets, wet storage stain or white rust can still occur. One of the main conditions which may give rise to this problem is sheets being exposed to water while stacked, which restricts air circulation between sheets.

It is therefore important that sheets remain dry and that they do not come into contact with each other at any point if exposed to water. If sheets cannot be stored in a dry storage space, they should be stood on end and spaced out at the bottom.

A drop in temperature after a warm, humid day may also lead to condensation of moisture throughout the stack. And because sheets are often placed on the ground or very close to it, where the temperature is usually at its lowest during the night, the risk of condensation is increased.

The stain that is created does not compromise the integrity of the sheet, but does have a negative impact on the aesthetic value.

## TECHNICAL

### EDGE WAVE AND OIL CANNING

Various factors can result in oil canning, although it does not affect the structural integrity of the sheeting, it may impact on the aesthetics if used on a higher pitched roof.

### SURFACE CONTAMINATION

Care should be taken to ensure that none of the debris arising from the fixing of a steel roof remains on the sheets after completion of work. If nails, swarf, etc. are allowed to remain on roof sheets, unsightly spots will soon appear. Initially these rust spots will merely be stains from rapidly rusting fine particles of steel, if allowed to develop further, a loss of zinc coating in the stained areas will appear. Nails, particles of steel, etc. will also stain and ultimately reduce the life expectancy of sheets. Sheets are often subject to wet cement splashes that create an area that is subject to alkali attack. Cement splashes should therefore be cleaned off immediately.

### WIND TERRAIN CATEGORIES

It is important to consult an engineer at design stage, to ensure the correct specification of purlin spacing and roof sheet gauge.

### CORROSION

The coast line of South Africa is a particularly harsh environment which carries coastal chlorides. In urban areas, corrosion is accelerated by the presence of sulphur emissions from industry and traffic. The choice of the correct steel substrate is therefore important to avoid high replacement costs and losses in rentals, etc. Please request additional information from Safintra in this regard.

**Note 1:**
During installation, clean the roof daily by removing all swarf, pop rivets and unused fasteners or any other debris.

**Note 2:**
Note that when using aluminium material on galvanized steel purlins, use of an isolation tape or similar to prevent the bridging of the two dissimilar materials is recommended. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion, and the service life of the aluminium will be compromised.

## CUT TO LENGTH

An additional service is cutting to length and blanking of continuous steel coils.

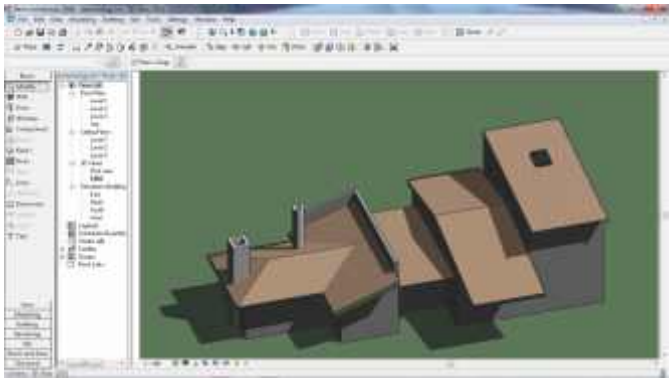
| CUT TO LENGTH PRODUCTION CAPACITIES | |
|---|---|
| Maximum width input coil | 1250mm |
| Maximum coil weight | 5 Ton |
| Maximum inside coil diameter | 510mm |
| Material thickness | From 0.3mm - 1.2mm |

## OTHER SERVICES

Safintra offers on-site rolling, of Saflok 700 and 410.


## TECHNICAL SERVICES

A full technical advisory service is available on request.



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# Trimflute®

# GREAT LOOKS MEET GREAT VALUE

## A cost effective and aesthetically appealing profile for roofing and cladding

- The deep flute gives the profile its strength with long spanning capabilities.
- The wide pans of Trimflute provide wider coverage per sheet than any other profile available, ideal for budget-sensitive projects.
- The perfect cladding profile to complement Saflok concealed fix roofing.
- Trimflute can be factory cranked, curved and bullnosed to a wide range of radii. For further details contact our Technical Department.

Trimflute is only available from Safintra

**South African operations:-** Johannesburg, Cape Town, Durban, Port Elizabeth, Polokwane, Nelspruit & Bloemfontein. *www.safintra.co.za*

**Additional operations in Africa include:-** Namibia, Botswana, Mozambique, Malawi, Zambia, Angola, Tanzania & Kenya, amongst others. *www.safintra.com*

A member of the SAFAL GROUP

SAFINTRA world class roofing systems

# PRE-ENGINEERED AND SPECIALIST PRODUCTS

## VENTILATORS AND LOUVRES
for Industrial & Architectural applications

FIXTITE FASTENERS

CLEARDEK

ASHGRID
Roof Spacer Support System

S-5!® The Right Way
Clamps for all metal roof attachments

## PRODUCT DESCRIPTION & FEATURES

**Safintra** offers a range of **locally manufactured** architectural and industrial louvres and air vents for a variety of air intake or exhaust applications.

All Vents and Louvres are manufactured from Aluminium-Zinc coated steel or Aluminium, to match the roofing material used, providing maximum corrosion resistance and aesthetic appeal.

All our products are custom made to your specific requirements.

## THE IMPORTANCE OF VENTILATION

Ventilation is important as it regulates the exchange of air to the outside as well as circulation of air within the building. They evacuate stale air within a building, replacing it with cool fresh air from fixed louvres and other openings at low level.

Good building ventilation will also assist in maintaining indoor air quality in buildings by limiting the concentration of carbon dioxide and airborne pollutants such as dust, smoke and volatile organic compounds (VOCs).

Natural ventilation refers to the process of supplying and removing air to and from indoor spaces by deliberate natural ventilation strategies, as opposed to mechanical ventilation.

### Safintra Ventilators & Louvres

Safintra manufactures bespoke ventilators and louvres for natural ventilation. They are not mechanical, and require no power.

### Features & Benefits

- Available in a variety of colours to complement architectural features
- Wide range of fixed louvre shapes available
- Various dimensions of ridge & slope mounted ventilators
- Manufactured from Aluminium-Zinc coated steel or Aluminium, to match the roofing material used & ensure aesthetic appeal.
- No operating costs

## TECHNICAL SERVICES & SUPPORT

Safintra offer full technical support and advice from project design to installation. It is strongly recommended that an approved installation company is appointed to install any roofing system or component thereof. This includes sheeting, and vents and louvres.

## ACCESSORIES

Accessories, such as flashings, bird/vermin proofing available on request.

## MAINTENANCE AND CARE INSTRUCTIONS

### FASTENERS & ACCESSORIES

- All fasteners should have rubber sealing washings which should be free of carbon fillers.
- Fasteners should be as durable as the roof sheeting. We recommend the use of Fixtite® fasteners or Safintra approved fasteners for both ZincAL® and COLORPLUS®.

### GENERAL

- Touch up paint is not recommended.
- Never use abrasive or solvent type cleaners.
- Don't use rough cleaning cloths, wire brushes or steel wool to clean the roof.
- ZincAL and COLORPLUS are compatible with other materials such as aluminium or equivalent aluminium/zinc coated steel; however it is advisable to avoid mixing different types of material on one project to prevent the possibility of accelerated corrosion.

## COLOUR AVAILABILITY

Colours available as per the standard colour options provided by Safintra South Africa.

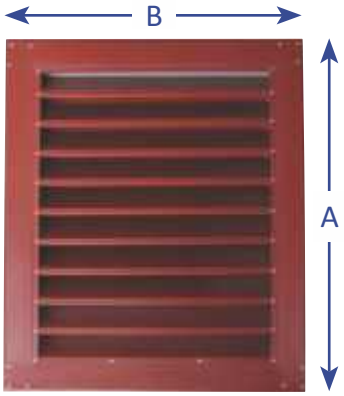
Bespoke colours available on request.

## SAFINTRA FIXED LOUVRES

The Safintra range of fixed louvre systems are designed to complement any metal cladding profile and are ideal for use in commercial applications both for practicality as well as architectural aesthetics.

## SAMPLE SPECIFICATION

Supply Safintra branded SFL4 fixed Louvres in AZ 150/200 in Square/Rectangular/Round/Triangular (in height x width (mm)), in ZincAL®/Colorplus® (specify colour), mounted in a metal surround frame, into cladding /masonry, flashed ac cording to manufacturer's recommendations.

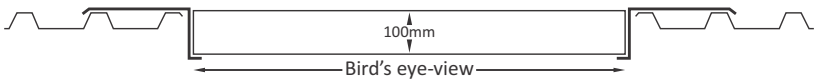


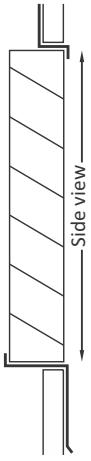

### Fixed Louvre Model Dimensions

| | SFL3 | SFL4 | SFL5 | SFL6 | SFL7 | SFL8 | SFL9 | SFL10 | SFL11 | SFL12 | SFL13 | SFL14 | SFL15 | SFL16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overall Height A (mm) | 360 | 480 | 600 | 720 | 840 | 960 | 1080 | 1200 | 1320 | 1440 | 1560 | 1680 | 1800 | 1920 |
| Overall Width B (mm) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Aggregate Throat Area ($m^2$) | 0.25 | 0.37 | 0.48 | 0.59 | 0.71 | 0.82 | 0.93 | 1.04 | 1.16 | 1.27 | 1.38 | 1.49 | 1.61 | 1.72 |
| ZincAL®/Colorplus® Steel Mass (kg) | 3.19 | 4.05 | 4.91 | 5.76 | 6.62 | 7.48 | 8.33 | 9.19 | 10.05 | 10.90 | 11.76 | 12.62 | 13.47 | 14.33 |
| Number of Blades | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

• Nomenclature SFL depicts (Safintra Louvres)

* Number of vents required = $\frac{\text{Ventilation required}}{\text{free measured throat area}}$




*Note: Louvres can be made in customised sizes as required. Please enquire with sales division.

## SAFINTRA VENTILATORS

The ventilator range comes in ridge or sloped mounted options. Finished in high quality Aluminium-Zinc coated steel or Aluminium, the Safintra Ventilator range will evacuate stale air within a building, replacing it with cool fresh air from fixed louvres and other openings at low level.

Safintra's slope and ridge-mounted ventilators are manufactured to suit any roof profile and roof aesthetics.

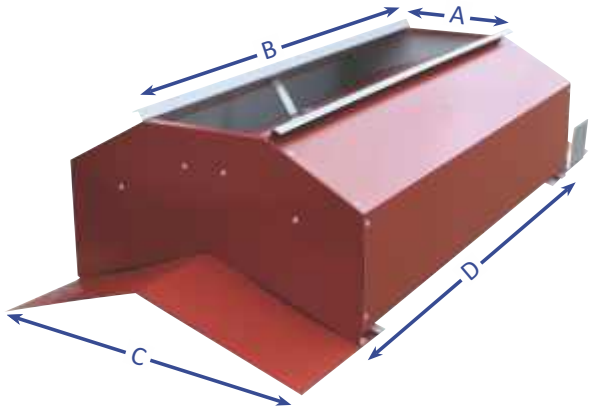
## SAMPLE SPECIFICATION

Supply Safintra branded SSV300 Ridge/Slope Ventilators in AZ 150/200 with a 300mm throat in ZincAL®/Colorplus® (specify colour), mounted to support brackets onto the purlin, and flashed according to manufacturer's recommendations.

*Safintra will assist in sourcing turbo ventilators on request.

### Ridge Mounted Vent Model Dimensions

| | SRV230 | SRV300 | SRV450 | SRV600 |
|---|---|---|---|---|
| Aggregate Base Throat Area (m²) | 0.53 | 0.69 | 1.03 | 1.37 |
| Free Measured Throat Area (m²) | 0.50 | 0.62 | 0.69 | 0.79 |
| Aggregate Base Throat Dimensions (AxB) (mm) | 230W x 2290L | 300W x 2290L | 450W x 2290L | 600W x 2290L |
| Overall Vent Dimensions (CxD) (mm) | 560W x 2450L | 630W x 2450L | 780W x 2450L | 930W x 2450L |
| *Purlin Spacing Required (mm) | 560 | 630 | 780 | 930 |
| ZincAL®/Colorplus® Steel Mass (kg) | 21 | 23 | 24 | 33 |

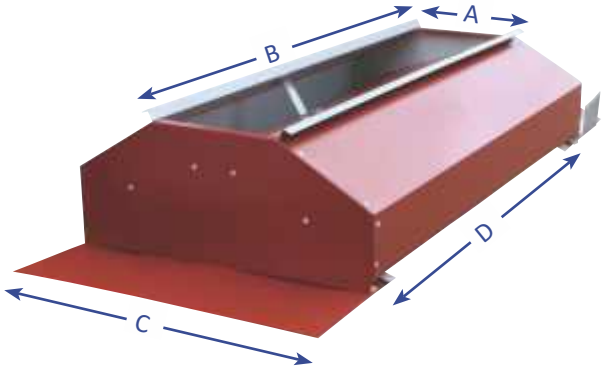



• Allow for clear (unobstructed) throat opening during ventilation

* Number of vents required = $\frac{\text{ventilation required}}{\text{free measured throat area}}$

### Slope Mounted Vent Model Dimensions

| | SSV230 | SSV300 | SSV450 | SSV600 |
|---|---|---|---|---|
| Aggregate Base Throat Area (m²) | 0.46 | 0.6 | 0.9 | 1.2 |
| Free Measured Throat Area (m²) | 0.44 | 0.54 | 0.6 | 0.69 |
| Aggregate Base Throat Dimensions (AxB) (mm) | 230W x 2000L | 300W x 2000L | 450W x 2000L | 600W x 2000L |
| Overall Vent Dimensions (CxD) (mm) | 560W x 2160L | 630W x 2160L | 780W x 2160L | 930W x 2160L |
| Max Purlin Spacing Required (mm) | 2000 | 2000 | 2000 | 2000 |
| ZincAL®/Colorplus® Steel Mass (kg) | 19 | 21 | 22 | 29 |




* Number of vents required = $\frac{\text{ventilation required}}{\text{free measured throat area}}$

**Disclaimer:** SAFINTRA ensures that the data provided is accurate at time of going to print, however due to continuous product development, please ensure that you have the most recent issue of information.

## PRODUCT DESCRIPTION & FEATURES

The metal sheeting and accessory products produced by Safintra are manufactured from the highest quality materials, and conform to the relevant South African National Standards. Safintra will not accept any form of liability for poor performance as a result of the incorrect or inferior materials being used in conjunction with their products.

It is in the best long-term interest of both the installer and end user to ensure that all materials used in an installation are in accordance with the Safintra's published recommendations.

## CHOOSING THE CORRECT CLASS OF FASTENER

It is imperative when using superior corrosion resistant steel roofing, walling and accessory materials that the performance of the fasteners used to fix these materials have the same or superior service life. Specifying the correct fastener for these projects is critical for long term performance and aesthetics to be achieved.

Table 1 gives a general guide to the fastener metal type recommended for various Safintra steel roofing products. In the interest of quality assurance it is essential fasteners used comply with the South African National Standard SANS 1273:2011.

## FASTENER TYPES

There are two fastener designs to be considered for use with Safintra's materials.

- Fixtite Self-drilling screws for fastening cladding to a building structure, and
- Accessory fasteners for fastening roofing accessory items such as flashings and S-5 clamps.

Where accessory fasteners such as pop rivets are required, they should be manufactured from aluminium when fastening Zinc Aluminium coated steel. However, in the case of Stainless Steel, compatible stainless steel pop rivets must be used.

## COMPATIBILITY

Stainless steel, Lead, Copper, and copper containing alloys (such as MONEL) should not be used in conjunction with Zinc Aluminium or pre-painted steel.

## WASHERS USED WITH FASTENERS

The rubber washer component of self-drilling screws must be manufactured from materials compatible with the roofing material.

Washers containing significant levels of conductive carbon black fillers are NOT suitable for use with Zinc Aluminium alloy coated and pre-painted Zinc Aluminium coated alloy products, particularly in marine environments.

***Therefore fasteners must be assembled with substantially carbon-black-free washers.***

## SHANK CORROSION

In certain applications the fastener may be exposed to a greater risk of corrosion as a result of specific internal environments ( e.g. high condensation, specific service environments such as intensive animal farming ). Under the South African National Standards corrosion classification is based on the fastener heads rather than the shanks. Please consult Safintra regarding shank corrosion within the specific application area of each project.

## FIXTITE® COATING & WARRANTY GUIDE

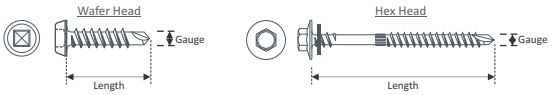
| CORROSION CLASS | C3 | C4 |
|---|---|---|
| ENVIRONMENT CORROSION | Average | High |
| OUTDOORS | Atmospheres with moderate levels of airborne pollution.<br>Coastal areas with low salt levels.<br>Urban and industrial areas. | Atmospheres with discernible levels of airborne pollution.<br>Coastal areas with moderate salt levels.<br>Industrial areas. |
| INDOORS | Areas with moderate levels of humidity and some airborne pollution from production process.<br>Laundries, breweries, diaries. | Areas with high levels of humidity and considerable airborne pollution from production process.<br>Chemical plants, swimming pools, dockyards. |
| STEEL<br>MASS LOSS (g/m2)<br>THICKNESS REDUCTION (µm) | <br>> 200 - 400<br>> 25 - 50 | <br>> 400 - 650<br>> 50 - 80 |
| ZINC<br>MASS LOSS (g/m2<br>THICKNESS REDUCTION (µm) | <br>> 5 - 15<br>> 0.7 - 2.1 | <br>> 15 - 30<br>> 2.1 - 4.2 |
| RECOMMENDED FASTENER MATERIAL AND MINIMUM SURFACE TREATMENT | Carbon Steel<br>+<br>FIXTITE® CS | Carbon Steel<br>+<br>FIXTITE® HD |

## ALL FIXTITE FASTENERS CARRY A MANUFACTURER'S WARRANTY AND COMPLY WITH SANS1273-2009 (AS3566.2-2002) STANDARDS

ALL SAFINTRA ROOF SYSTEMS WILL ONLY BE WARRANTED IF INSTALLED WITH SAFINTRA-APPROVED FASTENERS.

**How to read our fastener sizes**

| Gauge | | Threads Per Inch | | Length |
|---|---|---|---|---|
| 12 | – | 14 | – | 75mm |
| (Diameter of shank excluding thread)<br>#8 - 4.2mm<br>#10 - 4.8mm<br>#12 - 5.5mm<br>#14 - 6.3mm | | Number of thread crests that can be counted along a lineal measurement of 1 inch. (TPI). | | Overall length of shank including drill point, up to shank beneath head. |




NOTES:

- All Safintra Fixtite Fasteners used for our pierced fix profiles are Class 4 only, as this will provide optimal service life with aluminium-zinc coated steel.
- Different lengths/types of fasteners are available on request, including stainless steel.
- For optimal performance, the service life warranty of fasteners must match the service life warranty of the sheeting.
- Only Class 3 and 4 fasteners are suitable for use with Aluminium-Zinc coated steel (unpainted or pre-painted).
- Class 4 fasteners must be used within 1km of coast, river and in all corrosive environments.
- Aluminium roof sheeting: use ONLY stainless steel fasteners.

# FIXTITE FASTENER APPLICATION GUIDE

## METAL APPLICATIONS

### #12 x 22mm Metalfix wafer head square drive

For concealed fix onto metal
(Saflok 700, Saflok 410 & Newlok)

Class 3

Code: FN0400

### #12 x 65mm Metalfix hex head washer flange, EPDM seal

For trapezoidal onto metal
(Tufdek IBR, Widedek, Fluteline, Trimflute)

Class 4

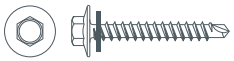
Code: FN0409

### #12 x 38mm Metalfix hex head washer flange, EPDM seal

For pierced fix onto metal (Classicorr Corrugated)

Class 4

Code: FN0407



### #14 x 22mm Metalfix stitching screw, hex washer flange, EPDM seal, tapered

For stitching of sheeting & flashings, and use with S-5 clamps

Class 4

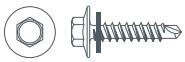
Code: FN0412

### #12 x 25mm Metalfix hex head washer flange, EPDM seal

For side cladding onto metal

Class 4

Code: FN0413



## TIMBER APPLICATIONS

### #12 x 45mm Timberfix wafer head square drive

For concealed fix onto timber
(Saflok 700, Saflok 410 & Newlok)

Class 3

Code: FN0401

### #12 x 85mm Timberfix hex head washer flange, EPDM seal

For trapezoidal onto timber
(Tufdek IBR, Widedek, Fluteline, Trimflute)

Class 4

Code: FN0411

### #12 x 65mm Timberfix hex head washer flange, EPDM seal

For pierced fix onto timber (Classicorr Corrugated)

Class 4

Code: FN0410

### 6 x 19mm Aluminium washer with EPDM seal

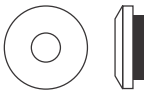
For high wind conditions with pierced fix profiles

Code: FN0414

### 6 x 25mm Aluminium washer with EPDM seal

For high wind conditions with pierced fix profiles

Code: FN0415



### Fixtite square drive

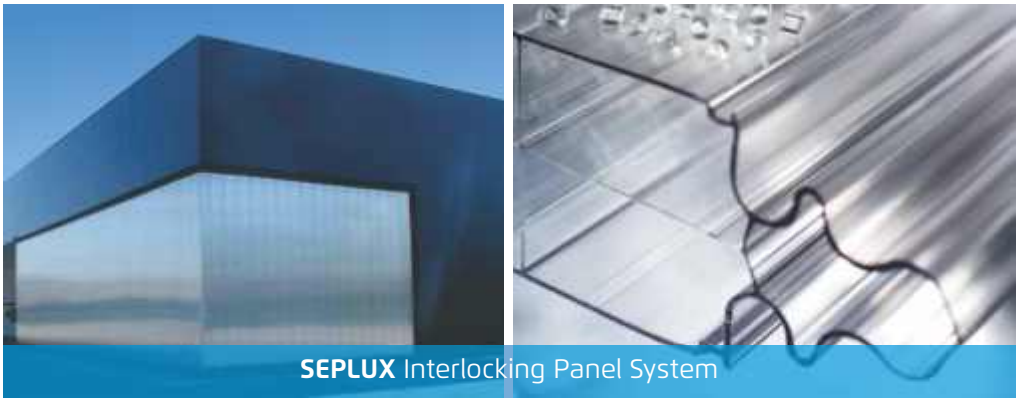
For wafer head screws

Code: FN0408

# CLEARDEK

## MULTIWALL POLYCARBONATE SHEETING SYSTEMS

**TOPGAL** Standing Seam System



**SEPLUX** Interlocking Panel System

**CLEARDEK**® is a new generation of multiwall polycarbonate panel systems that allow for the ingress of natural light, yet is very strong, and provides thermal insulation. CLEARDEK may be used in a wide variety of roofing and cladding designs, flat or cold (spring) curved.

- Controlled daylight transmission
- High thermal insulation and UV protection
- Withstands high wind loads
- High impact strength - virtually unbreakable
- Resistance to extremes in temperature and improves functional performance
- Lightweight, easy and fast to install, no heavy substructure required
- Can be cold curved - see page 3 for radii
- Flame retardant- no need to add extinguishing or fire-retardants materials
- Naturally absorbs sound, reducing the need for acoustic insulation.
- 100% recyclable - environmentally friendly

**Typical Applications:**

TOPGAL STANDING SEAM SYSTEM

- Roofing
- Walkways, entrances and open recreation areas
- Decorative interior and exterior cladding

40 5PX SEPLUX INTERLOCKING PANEL SYSTEM

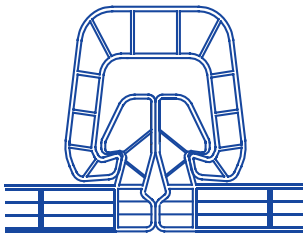
- Cladding
- Facades
- Decorative interior walling and partitions

## TOPGAL

The **CLEARDEK STANDING SEAM** system called **TOPGAL** is engineered to be fixed by clips which fasten under the seam, allowing the panels to be clamped in place without any fastener penetration through the panels. This makes the standing seam system both watertight and long lived.

The panels range from 3-7 layer multiwall construction which gives it the inherent strength to withstand high wind loads, and also provide outstanding R values.

CLEARDEK STANDING SEAM is based on two unique features: The under-sheet clips which fix the sheeting to the purlins accommodate thermal expansion and contraction, and an outer seam over the raised flanges on the side laps make for a water-tight surface area.



**TOPGAL standing seam system for optimum water tightness**

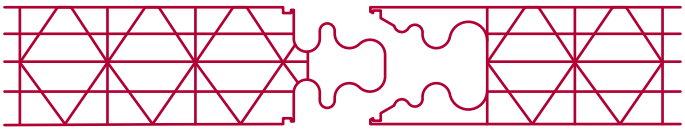
The **Topgal** system is supplied complete with polycarbonate or aluminum joiners, end-caps, and edging profiles to create a robust fully framed installation which is highly watertight.

- Can be used on roofs with min 7 degree slope
- 3 to 7 layer multiwall structure for high strength
- Guaranteed for 10 years against discolouration, defect

## 40 5PX SEPLUX

The **CLEARDEK INTERLOCKING PANEL** system called **SEPLUX** is engineered with an interlocking male female joint which provides strength and weatherproofing.

The panels range from 3-9 layer multiwall construction which gives it the inherent strength to withstand high wind loads, and also provide outstanding R values.



**SEPLUX interlocking panel system for strength and aesthetics**

The male-female interlock provides lateral strength, allowing the system to stand up to full wall height without the use of lateral supports, making for a clean look which is modern and flexible in application, whether inside or outside. It also provides a completely flat surface for graphics (silk screening), permits the easy installation of window and door apertures and its acoustic properties make it ideal for space partitioning in offices and public spaces.

Aluminium framing on all four sides provides strength and stability.

- Weight of 4kg / $m^2$ - half the weight of glass of same strength
- 2 x more effective than double glazing
- Can stand 2,5 m high with no lateral support
- Reduces sound by 17 dB
- 5 wall structure for high strength and rigidity
- Guaranteed for 10 years against discolouration, defect

# Colours and Optical Properties

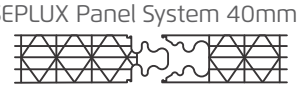
Colours below are standard items - additional colours are available but subject to special order conditions.

| Colour | TOPGAL 10mm Standing Seam | | TOPGAL 16mm/20mm Standing Seam | | SEPLUX 40mm Interlocking Panel | |
|---|---|---|---|---|---|---|
| | LT (%) | SHGC | LT (%) | SHGC | LT (%) | SHGC |
| Clear | 65 | 0.6 | 49 | 0.51 | 76 | — |
| Bronze | 30 | 0.5 | 20 | 0.39 | — | — |
| Ice / Opal | 20 | 0.36 | 20 | 0.32 | 38 | — |
| Blue | 30 | 0.59 | 20 | 0.43 | — | — |
| Polyshade Silver | 12 | 0.27 | 12 | 0.26 | — | — |

- LT - Light Transmission in % according to ASTM D-1003, measured between ribs.
- SHGC - Solar Heat Gain Coefficient is the ratio of solar heat gain through the sheet and the incident solar radiation. It takes into account all conduction, convection and radiation effects involved.
- Panels have UV protection on both sides or one side, upon customer request. (Standard products in stock have UV protection one side - clearly indicated on the product).

# Product Specifications

Detailed installation & accessory brochures are available in soft copy on request.

| Panel | Thickness (mm) | Width of Panel (mm) | Dead Load (kg/m²) | Recommended Purlin Spacing (mm) ave. | R-Value | Minimum Radius for Cold Bending (m) |
|---|---|---|---|---|---|---|
| TOPGAL Standing Seam 10mm  | 10 | 600 | 2.5 | 750 | 0.476 | 2.0 |
| TOPGAL Standing Seam 16mm  | 16 | 600 | 3.3 | 900 | 0.555 | 3.2 |
| TOPGAL Standing Seam 20mm  | 20 | 1000 | 3.5 | 1000 | 0.666 | 4.0 |
| SEPLUX Panel System 40mm  | 40 | 435 | 4.0 | N/A | 0.833 | 8.0 |

- Dead Load is a weight of 1m² of Topgal system, includes installation accessories
- Other thicknesses available on special request

# Technical Data

| | TOPGAL | 40 5PX SEPLUX |
|---|---|---|
| Linear Expansion | 0.065mm/m °C | 0.065mm/m °C |
| Service Temperature | -40°C - +120°C | -40°C - +120°C |
| Fire Resistance Rating | B-s1,d0 | Self Extinguish B-s1,d0 |
| Certification | EN-13823/EN-11925-2 | EN-14351-1/EN-13830 |
| Possible Expansion due to Heat & Moisture | 2mm - 4mm/m | 2mm - 4mm/m |

## GREEN BENEFITS AND SUSTAINABILITY OF CLEARDEK MULTIWALL SYSTEMS

**By Ezra Laudon** - Architect

CLEARDEK Multiwall Polycarbonate systems are a perfect option for large architectural installations from swimming pool enclosures and shopping centres to office buildings or street furniture.

The many green advantages of the CLEARDEK Multiwall Polycarbonate systems, combined with light-weight and easy installation, provide an economical and sustainable option for use in all building projects.

CLEARDEK Multiwall Polycarbonate systems offer all the advantages of polycarbonate: light weight, letting in natural light, UV resistant, impact resistant, with easy installation. Being engineered as multi-skin extrusions, the profiles trap air to deliver high R values and a more energy efficient building. There is no need for metal glazing profiles and a heavy subframe.

Manufactured with a single sided or 2 sided UV coating, a building facade or roofing installation made with CLEARDEK Multiwall Polycarbonate systems is guaranteed to stand the test of time.

**In roofing, sustainability is defined as:**

- using less material but delivering better performance during a longer service life
- being thermally efficient / contributing to a reduction in greenhouse gasses during its useful occupied life
- being ultimately recyclable

**"Green" benefits of CLEARDEK Multiwall Polycarbonate systems include:**

- Excellent thermal insulation reduces the amount of electricity required to heat the building in winter, and cool it in summer.
- The use of natural daylight reduces demand for artificial lightning.
- By blocking UV rays, it provides a healthier interior for humans and furniture.
- Lightweight material does not need a heavy subframe, so uses less materials and accessories, and reduces transportation energy.
- Fully recyclable.

# FOR NEW ROOF AND OVER-ROOFING APPLICATIONS

## INTRODUCTION TO ASHGRID

**All spacer support systems are at risk during the installation stage when they are not restrained by the sheeting and are subjected to forces from foot traffic, temporary loading and high winds.**

Accurate, close fitting and reliable bar connections are also required to ensure the stability of any spacer support system during construction with some systems even having to rely upon screw fixings to prevent their bars from separating**.

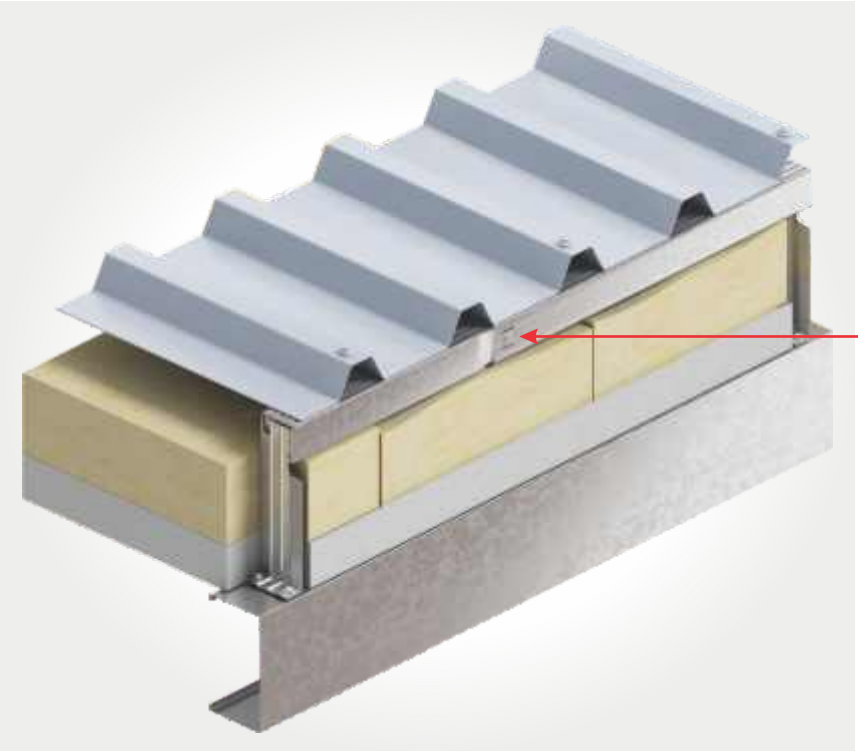
**The Ashgrid Safe-Loc™ Spacer Support System** addresses these issues through a combination of innovative design features which improve system stability, safety and ease of construction, reducing installation time and costs when compared with other spacer support systems.

- The Ashgrid system can accommodate any depth of insulation required by Legislation
- Safe-LocTM spigots - fast, secure and safe bar joints
- No need for bar end fixings - saving time and cost
- Raises the standards for spacer support systems
- Maximum spigot efficiency is always achieved and a consistent module maintained
- Allows continuous load transfer throughout the bar run
- High performance brackets with deeper ribs for improved structural performance
- Brackets include an EPDM base pad to eliminate thermal breaks
- No requirement for anti-sway brackets below 250mm* construction depth
- Quick, easy and safe insertion of brackets from the side or from the bar ends
- Brackets can be easily repositioned if required
- Deep ribbed bar, ensuring optimum fixing efficiency for the top sheet
- High fixing torque and increased pull-out strengths achieved
- Comprehensive and friendly technical backup with nationwide distribution
- Products manufactured to BS EN ISO 9001: 2000

**In-line forces can be transmitted through the joint without the need for screw fasteners.

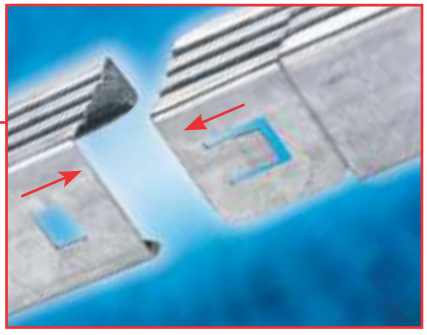
*For exceptional site loading conditions and for heights above 250mm advice on performance should be sought from the Ashgrid SA Technical Department.

## SYSTEM COMPONENTS



**Creates a defined cavity for optimal insulation.**

SAFE-LOC™
SECURE BY DESIGN



No sway brackets

## MATERIAL SPECIFICATION

**Ashgrid AG40 bar**
Manufactured from 1.25mm thick high yield galvanised steel to S390GD + Z275 NA-C. Coil to EN 10147: 2000. Minimum yield: 390N/mm2, Minimum tensile: 460N/mm2. Supplied in lengths of lm, 2m & 3m incorporating spigot end for easy on-site connection.

**Ashgrid brackets**
Manufactured from 1.6mm thick galvanised steel to FEPO2G + Z275 BS EN 10142. Supplied with a 3mm thick EPDM base thermal insulator pad the standard bracket heights (mm) are: 60, 80, 85, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250 & 280.

**Ashfix fixings LS25**
(1.25mm - 3mm thickness steel)
For fixing brackets into thin gauge steel use LS25 fixings. To ensure maximum sheet to bar fastener performance use LS25 with G16 washers for walls, G19 for roofs and G29 for rooflights.

## BENEFITS OF OVER-ROOFING

### Minimises building occupants risk and disruption of trade
Legislation stipulates that occupants of a building where asbestos/metal roof sheets are being removed vacate the premises. Leaving the existing roof covering in-situ allows the occupant of the building to continue with their 'day to day' business operations without costly disruptions to trade. Consequential damage due to inclement weather & falling debris usually associated with conventional re-roofing are eliminated when over-roofing.

### Eliminates rising costs associated with removal & disposal of asbestos
Legislation stipulates that the removal & disposal of asbestos may only be carried out by registered asbestos removal contractors. Removal & disposal costs are high due to safety procedures, transportation & disposal costs.

### Labour & time savings
Leaving the existing roof covering in place eliminates the removal phase. This in turn reduces the duration of the project which contributes to significant financial savings.

### Improved Health & Safety
The existing asbestos-cement/metal roof sheets remain in place providing the contractor with a platform to work off. This significantly simplifies the fall protection plan required. The majority of loose asbestos fibres are present between the sidelaps of the existing asbestos-cement roof sheets. These fibres are only at risk of being released when the roof sheets are lifted and removed. Leaving the existing asbestos-cement roof sheets in position eliminates the risk of releasing fibres and exposing the contractor or occupants to contamination.

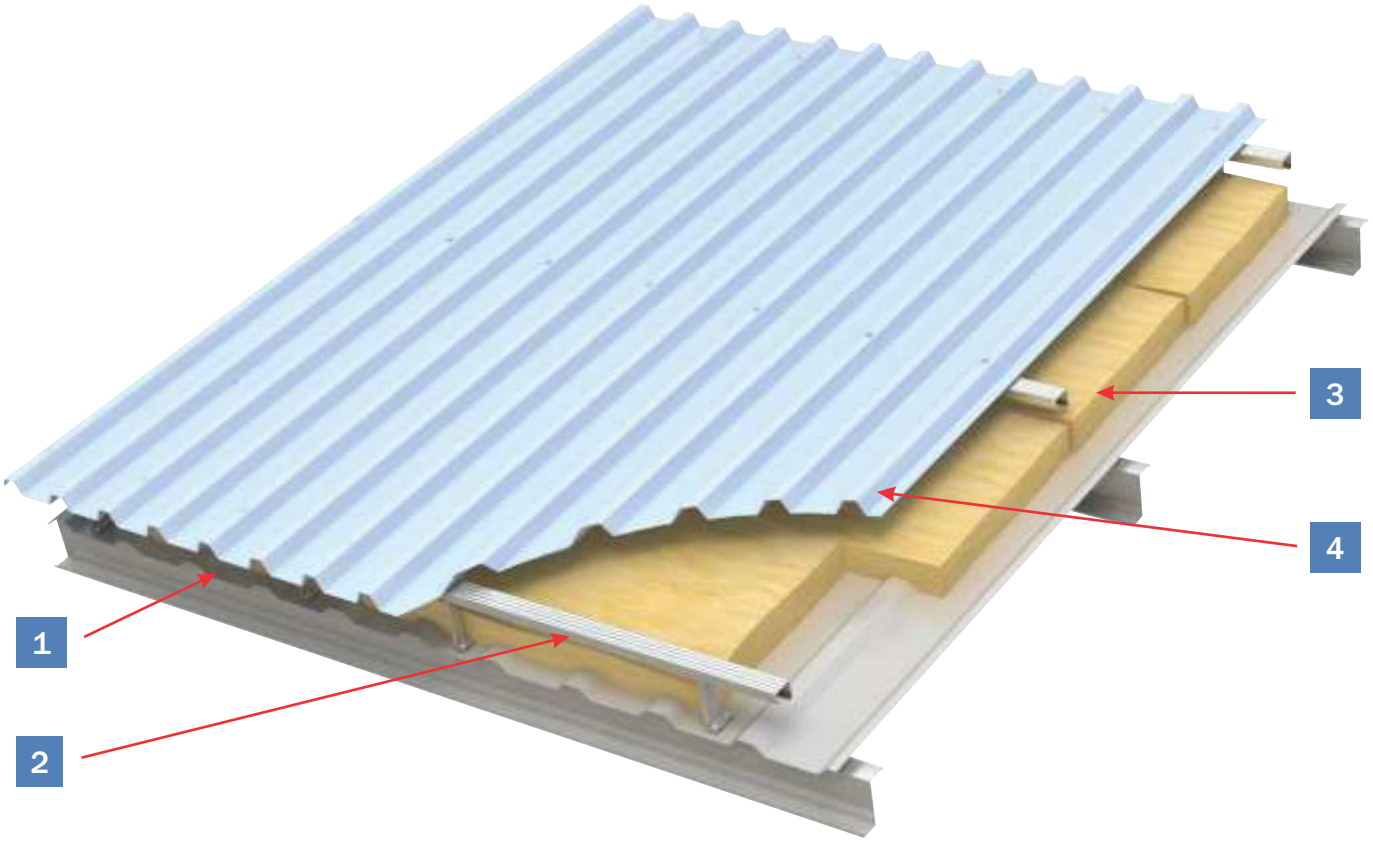
### Energy Efficiency
Over-roofing with the Ashgrid Spacer System creates an engineered, structurally defined cavity between the old and new roof coverings. When insulated this cavity dramatically improves the overall energy efficiency of the entire building. With ever increasing electricity prices, energy consumption has become a big concern for most property owners and tenants. Significant financial savings are possible over the life cycle of the new roof covering when insulated appropriately.

### Acoustic performance
Creation of an insulated cavity dramatically improves the acoustic performance of a roof. Acoustic performance is imperative when a condusive environment is required in places of learning, libraries, broadcasting facilities, court houses etc.

### Environmental benefits
Our landfill sites are filling up at a rapid rate. Over-roofing asbestos-cement roofs prevents further deterioration of the product rendering it inert & safe. Whereas asbestos-cement products that are disposed of in landfill sites continue to degrade due to exposure to the elements. This continued uncontrolled deterioration has a severe impact on our already fragile environment.

### Security
Over-roofing incorporates a second layer of roof covering which provides additional security. The majority of commercial break-ins occur through the roof. This additional layer of roof covering provides an extra barrier to deter criminals.

## OVER-ROOFING STEEL ROOFS



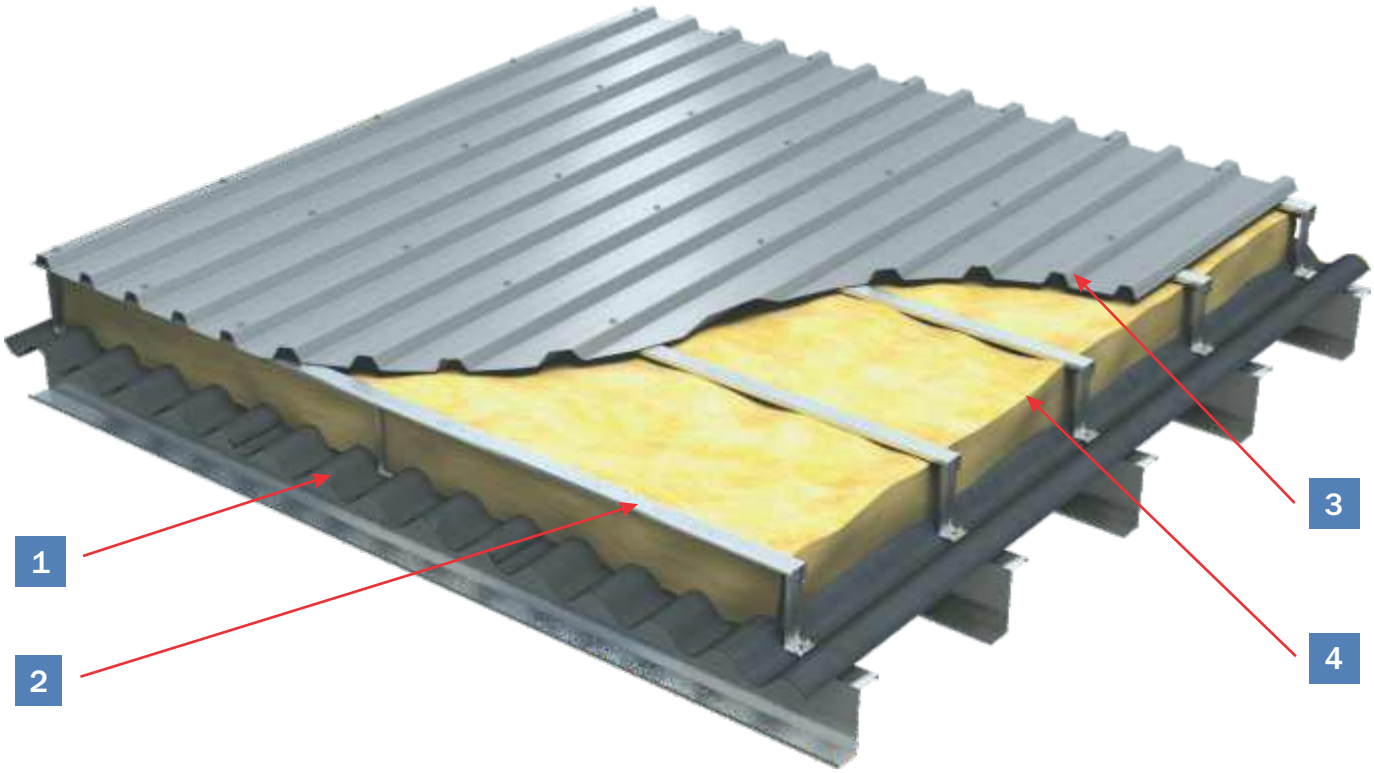

1 Existing steel roof sheets are left in position, eliminating the labour intensive task of removal and providing an excellent platform to work off and improving site safety. The existing steel roof sheets also provides a suitable substrate to carry any insulation material that is installed.

2 The innovative Ashgrid System is installed in the troughs of the existing steel profiled roof sheets with the brackets fixed directly to the underlying steel or timber purlins. The Ashgrid brackets are available from 60mm to 280mm to create a cavity for the installation of insulation to achieve the required r-value.

3 Insulation is installed to the newly created cavity based on the required thermal, acoustic and fire performance requirements of the specific project. Installation of insulation is not a prerequisite.

4 The new outer roof covering is installed directly to the bars of the Ashgrid system. The Ashgrid system is compatible with all forms of pierced and concealed fix profiled steel sheets and is engineered to evenly distribute the loads into the existing roof structure.

## OVER-ROOFING ASBESTOS ROOFS




1 Existing asbestos-cement roof sheets are left in position eliminating the labour intensive and dangerous task of removal.

2 The innovative Ashgrid system is installed in the troughs of the existing asbestos-cement roof sheets with the brackets fixed through the roof sheets directly into the existing steel or timber purlins. The Ashgrid brackets are available from 60mm to 280mm to create a cavity for the installation of insulation to achieve the required r-value. All drilling is carried out in conjunction with a specialised H-Series vacuum which is designed to capture any dust and asbestos fibres created during the drilling process. This powerful vacuum cleaner is fitted with a Ulpa Filter for 99.999% efficiency at 0.12 micron. It is ESD safe, meets HSG264 standards of surveying and is fully compliant with BS EN 60335-2-69.

3 The new outer roof covering is installed directly to the bars of the Ashgrid system. The Ashgrid system is compatible with all forms of pierced and concealed fix profiled steel sheets and is engineered to evenly distribute the loads into the existing roof structure.

4 Insulation is installed to the newly created cavity based on the required thermal, acoustic and fire performance requirements of the specific project. Installation of insulation is not a prerequisite.

### Asbestos in the Roofing Industry

Where an asbestos cement corrugated roof has come to the end of its economic life, it is safer and more cost effective to leave the sheets in place and over-roof with a non-asbestos roofing sheet whilst adding insulation if required.

### Over-Roofing

Over-roofing is an environmentally sound way to deal with roof coverings that contain asbestos. The **Asbestos Information Centre** of the United Kingdom http://www.aic.org.uk states: "Asbestos materials, which are sound, undamaged and not releasing fibres, **should not be disturbed.** Their condition should be monitored on a regular basis. Removal should only be performed where repair is not possible or the material is likely to be disturbed."

Enclosure of asbestos-cement roofs by means of over-roofing is widely recognised internationally as a safe, cost effective & non-invasive alternative to removal.

**Disclaimer:** SAFINTRA ensures that the data provided is accurate at time of going to print, however due to continuous product development, please ensure that you have the most recent issue of information.

# S-5!®

## The Right Way

The right way to attach almost anything to metal roofs!

## S-5-K Grip™ Clamp

The S-5-K Grip™ clamp was specifically developed to fit Saflok® and similar bulb snap-together seams. The design utilizes multiple inserts used for a variety of bulb snap-together profiles. Each insert has a unique shape that allows for a tight fit and provides increased holding strength for that profile.

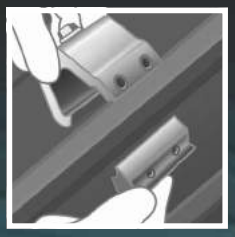
The head of the flanged bolts control the amount of compression, which reduces the possibility of over-compressing the seam.

Just place the clamp on the seam, position the insert piece, and tighten the flanged bolts at the base. Then, affix ancillary items using the top bolt provided. Go to: www.S-5.com/tools for information about properly attaching S-5!® clamps.

**S-5-K Grip™ Mini Clamp**
The S-5-K Grip Mini is a bit shorter than the S-5-K Grip and has one base bolt rather than two. The mini is the choice for attaching all kinds of rooftop accessories: solar arrays, signs, walkways, satellite dishes, antennas, rooftop lighting, lightning protection systems, exhaust stack bracing, conduit, condensate lines, mechanical equipment—just about anything!

**S-5-K Grip™ is a non-piercing clamp. It was specifically developed to fit Saflok® and similar bulb snap-together seams, and will not void warranties on Safintra concealed-fix roofing.**

S-5! PV kits have an M8 bolt and are suitable for use with all S-5! clamps.

1


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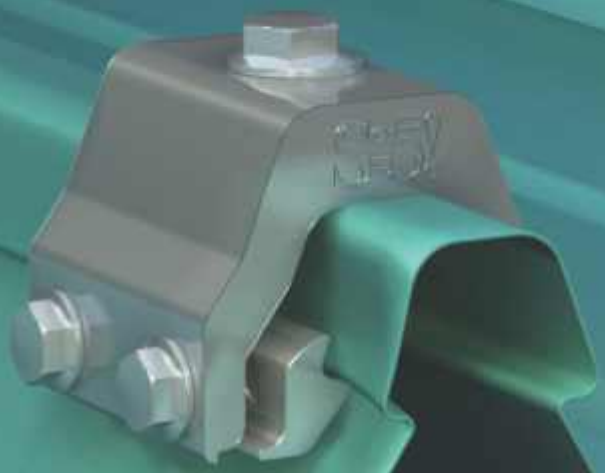
3


4


S-5-K Grip™ and S-5-K Grip™ Mini



S-5!®
The Right Way

**The S-5-K Grip™ eliminates the large moment arm and features a low mounting surface area with the mounting bolt directly over the centre of the seam, which dramatically increases the strength of the clamp.**

The **S-5-K Grip™** and **S-5-K Grip Mini** clamps are each furnished with the hardware shown to the right. A structural aluminum attachment clamp, the S-5-K Grip is compatible with most common metal roofing materials excluding copper. All included hardware is stainless steel.

**S-5!® holding strength is unmatched in the industry.**

The S-5-K Grip clamp has been tested for load-to- failure results on a variety of standing seam roof profiles from leading panel manufacturers. For design assistance, contact Safintra South Africa (and see our website **www.safintra.co.za**), or visit **www.S-5.com** for the independent lab test data that can be used for load-critical designs and applications. Also, please visit S-5! website for more information including metallurgical compatibilities and specifications.

## Example Profiles

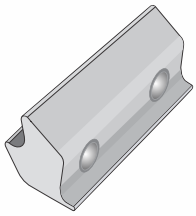
SAFLOK 410
concealed fix roofing

SAFLOK 700
concealed fix roofing

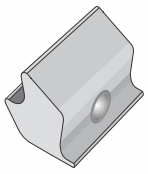
## Insert Options

**Safintra Saflok 410 and similar profiles**

S-5-GX 10 Insert

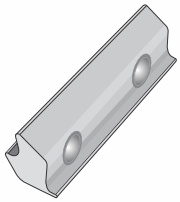


S-5-GXM 10 Mini Insert

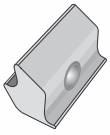


**Safintra Saflok 700 and similar profiles**

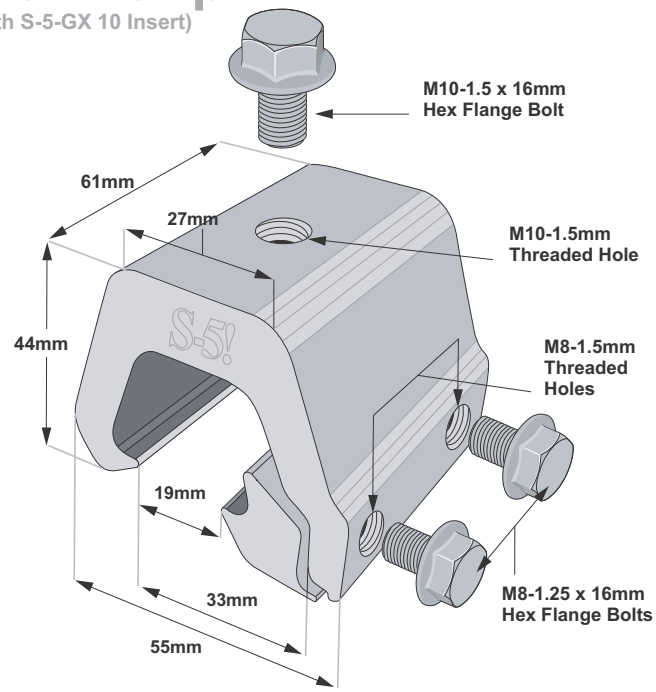
S-5-GX 50 Insert



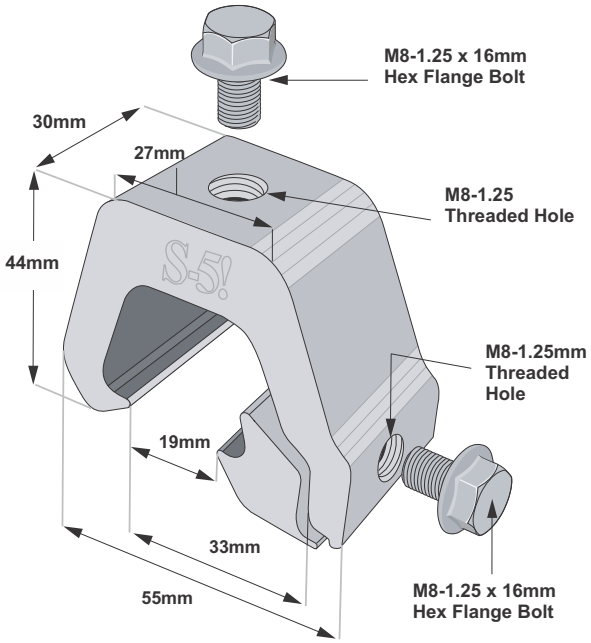
S-5-GXM 50 Mini Insert



## S-5-K Grip™
(With S-5-GX 10 Insert)




## S-5-K Grip™ Mini
(With S-5-GX 10 Mini Insert)




**Please note: All measurements are rounded to the second decimal place**

**S-5!® Warning! Please use this product responsibly!**

S-5! Brackets and clamps are not tested for performance as part of a Fall Arrest or Personal Safety system. These applications need to be tested as a dynamic system and warranties or test results must be issued by the system provider.
Safintra, Safal Group and its subsidiaries provide no warranties or any assurances in this application, and will accept no claims of any nature whatsoever arising out of any such applications.

Products are protected by multiple international patents. For published data regarding holding strength, bolt torque, patents and trademarks visit the S-5! website at www.S-5.com.



Sole Agents for Africa:

SAFINTRA
world class roofing systems

www.safintra.co.za / www.safintra.com

# S-5!®

## The Right Way!

## S-5-H90 Clamp

The S-5-H90 is a one-piece clamp that was developed to securely and cost-effectively accommodate metal roof panels with a horizontal seam greater than 16.5mm.

Turning the clamp 90 degrees so that the bolt hole side is facing up, slip the clamp on the seam and tighten the setscrews. Go to www.S-5.com/tools for information about properly attaching S-5!® clamps.

After the clamp is installed, affix ancillary items using either of the two threaded bolt holes and bolt provided.

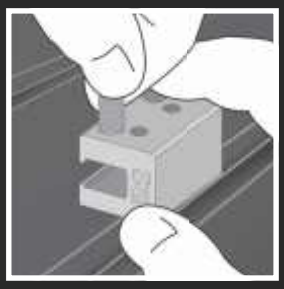
## S-5-H90 Mini Clamp

The S-5-H90 Mini is a bit shorter than the S-5-H90 and has one setscrew and one threaded bolt hole rather than two. The mini is the choice for attaching all kinds of rooftop accessories: signs, walkways, satellite dishes, antennas, rooftop lighting, lightning protection systems, solar arrays, exhaust stack bracing, conduit, condensate lines, mechanical equipment—just about anything!*

***Note:**

- Installation diagrams above illustrate S-5! Standard clamp
- The S-5! mini clamp is a standard stock item for Safintra South Africa. The Standard clamp is available on order, and subject to a 6-8 week delivery.

1



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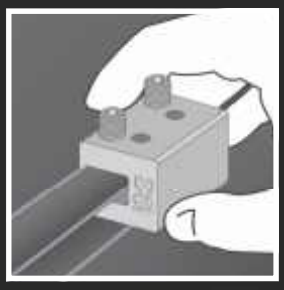

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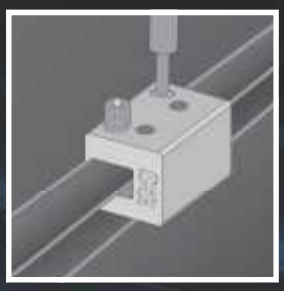
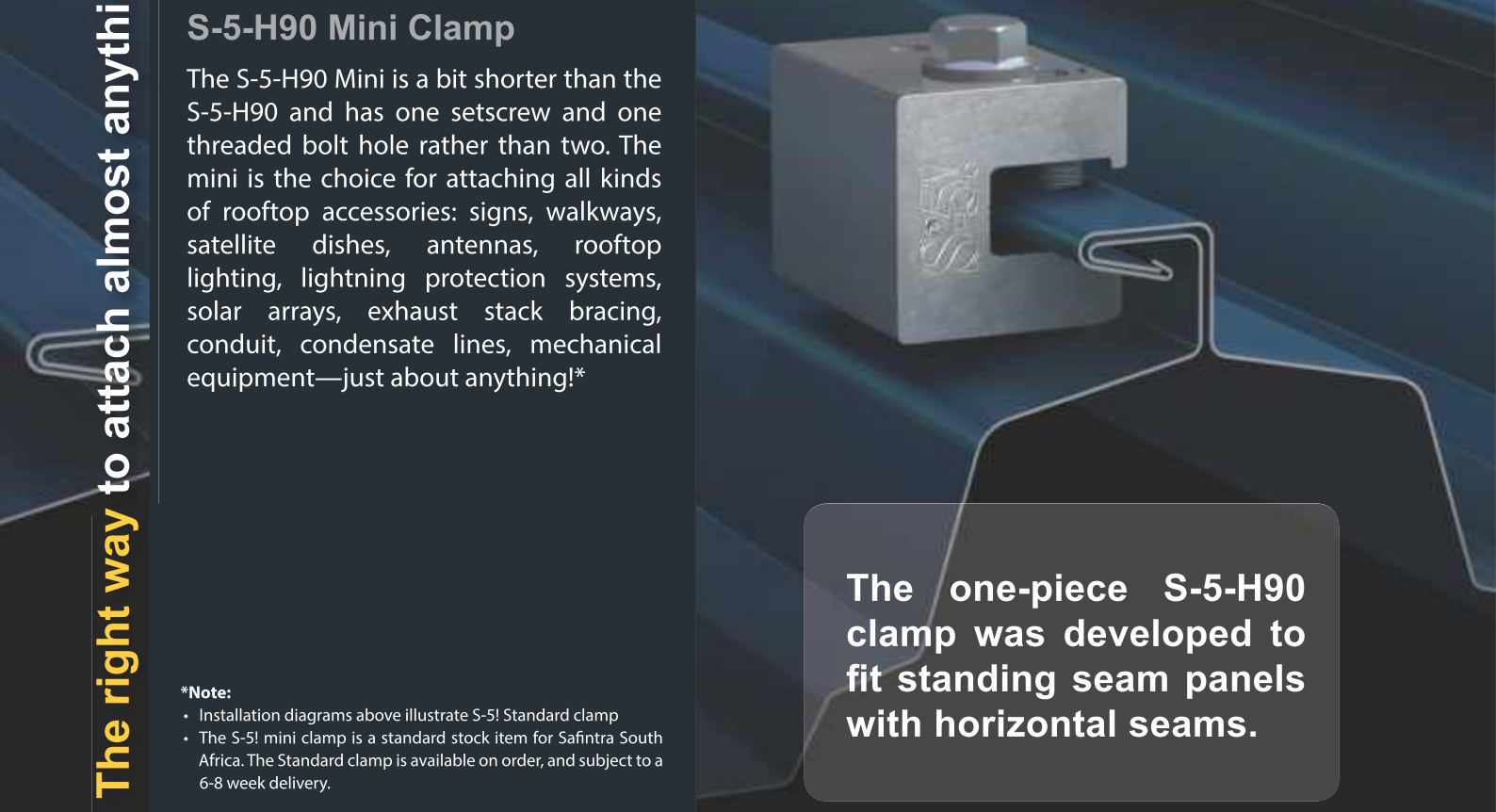


S-5-H90 and S-5-H90 Mini



**The one-piece S-5-H90 clamp was developed to fit standing seam panels with horizontal seams.**

**The right way to attach almost anything to metal roofs!**

S-5!®
The Right Way!

**The strength of the S-5-H90 clamp is in its simple design. The patented setscrews will slightly dimple the metal seam material but will not puncture it—leaving roof manufacturers' warranties intact.**

The **S-5-H90 and S-5-H90 Mini clamps** are each furnished with the hardware shown to the right. Each box also includes a bit tip for tightening setscrews using an electric screw gun. The structural aluminum attachment clamp is compatible with all common metal roofing materials excluding copper. All included hardware is stainless steel.

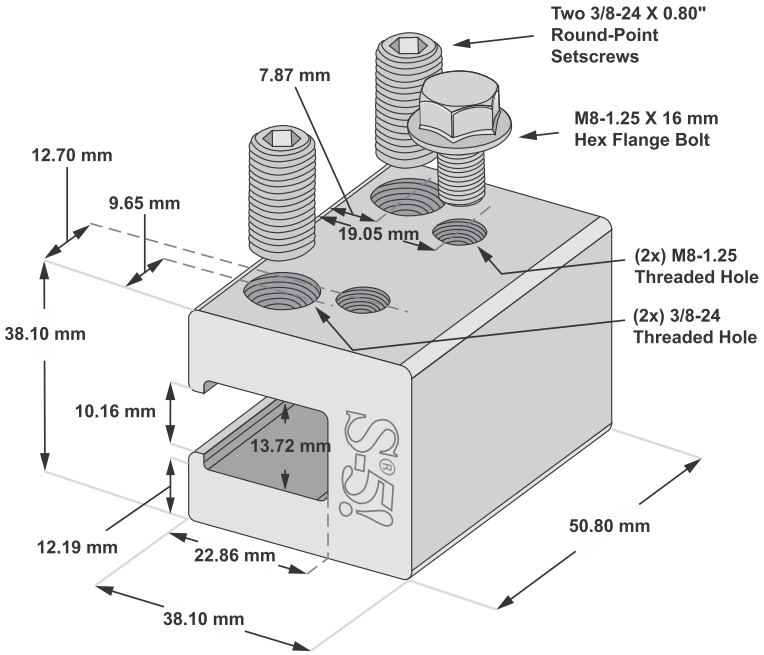
The S-5-H90 clamp has been tested for load-to-failure results on a variety of horizontal standing seam roof profiles from leading panel manufacturers. For design assistance, contact Safintra South Africa (and see our website **www.safintra.co.za**) or visit **www.S-5.com** for the independent lab test data that can be used for load-critical designs and applications. Also, please visit the S-5! website for more information including metallurgical compatibilities, and specifications.

## Example Profiles

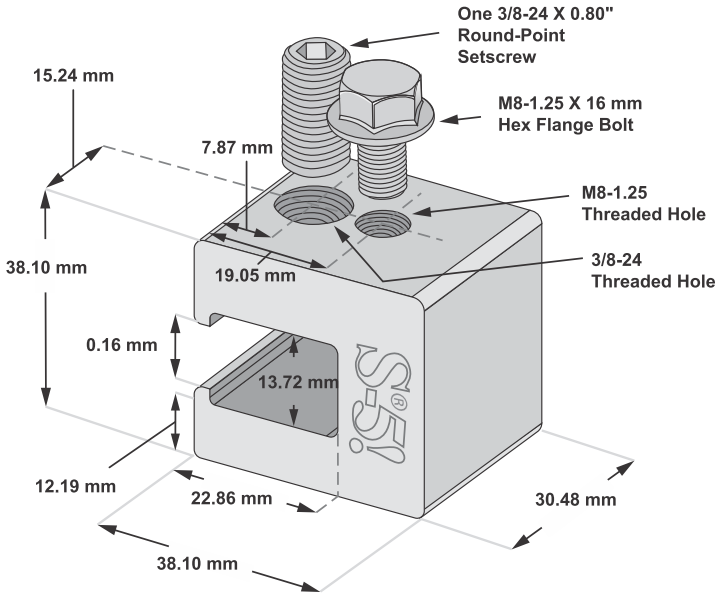
NEWLOK
standing seam roofing

**Newlok profile - seamed**

## S-5-H90 Standard




## S-5-H90 Mini



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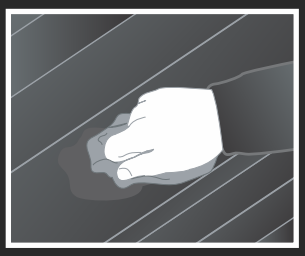
# S-5!®

The Right Way

1



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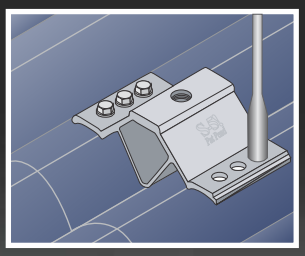


CorruBracket™ and CorruBracket™ Mini

The right way to attach almost anything to metal roofs!

## S-5! CorruBracket™

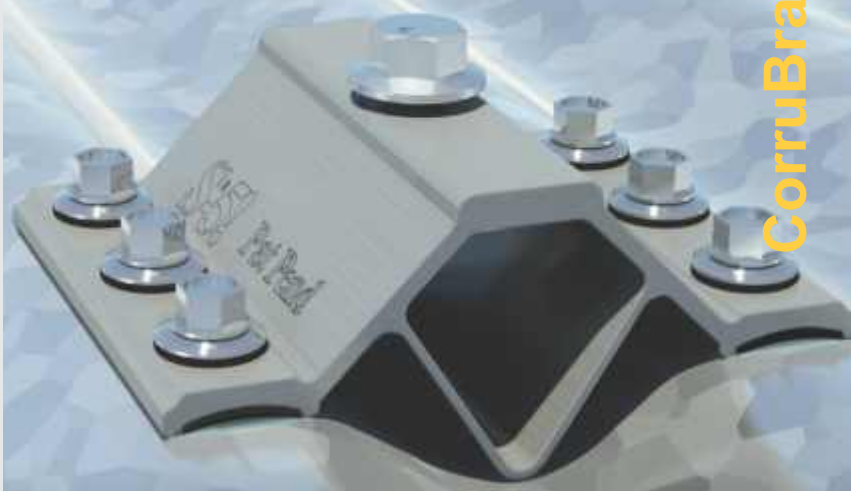
CorruBracket™ is compatible with 16-18mm corrugated roofing profiles. CorruBracket is affixed to the crest of the corrugation, leaving the valleys free of holes. S-5! CorruBracket comes with a factory-applied EPDM rubber gasket seal protecting against leaks.

S-5! CorruBracket is mounted directly onto the crest of the corrugation, straddling the valley. No surface preparation is necessary; simply wipe away excess oil and debris, align, and apply. Secure directly into the crest of the corrugation by driving the appropriate screws into the six pre-punched holes, or pre-drilling the proper sized hole through the six pre-punched holes and riveting.

**S-5!® CorruBracket™ Mini**
The Mini is shorter than the Standard, and has only one fastener hole on each side.

**S-5!® CorruBracket™ is the right way to attach almost anything to Safintra's Classicorr corrugated and all other 16-18mm corrugated sheeting.**

S-5! PV kits have an M8 bolt and are suitable for use with all S-5! clamps.



S-5!®
The Right Way

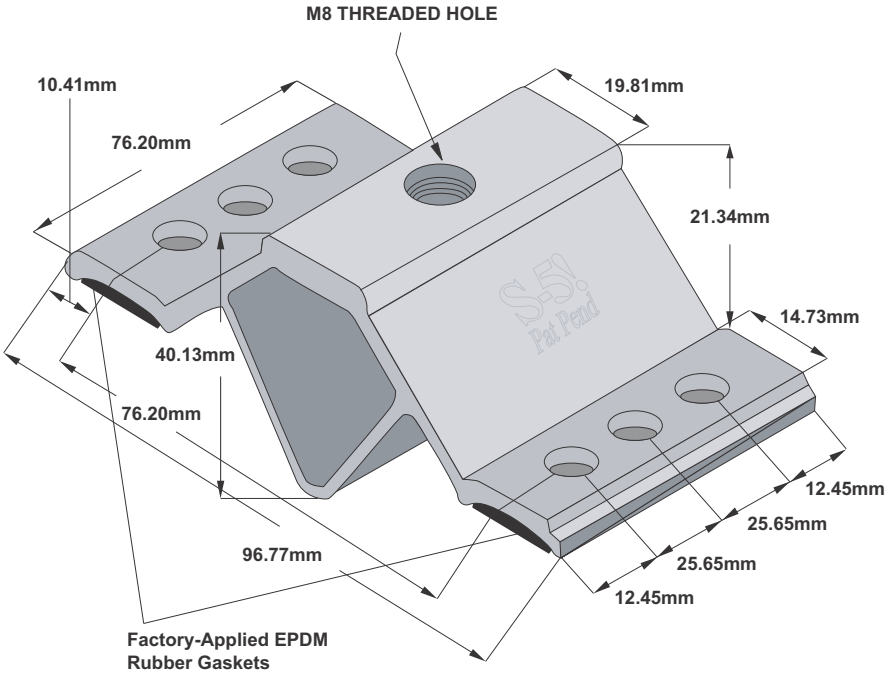
**S-5! CorruBracket™ can be used for almost any attachment need on Safintra Classicorr corrugated and other 16-18mm corrugated metal sheeting.**

# S-5! CorruBracket™

**S-5!® holding strength is unmatched in the industry.**

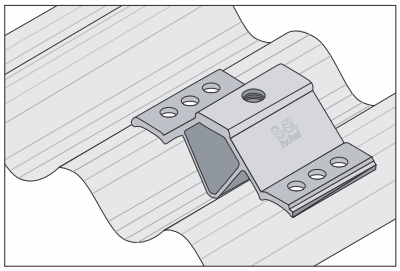
Each **S-5! CorruBracket™** comes with factory-applied EPDM rubber gaskets on the base. A structural aluminum attachment bracket, CorruBracket is compatible with most common metal roofing materials.

For design assistance, contact Safintra South Africa (and see our website **www.safintra.co.za**), or visit **www.S-5.com** for the independent lab test data that can be used for load-critical designs and applications. Also, please visit S-5! website for more information including metallurgical compatibilities and specifications.

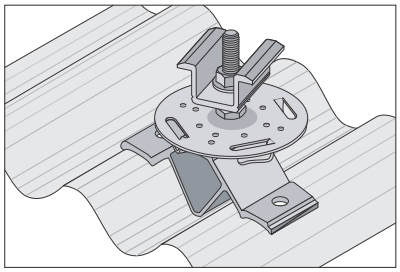



**Please note: All measurements are rounded to the second decimal place**

classicorr corrugated



**CorruBracket™ - Standard Size**
Note three fastener holes on each side.



**CorruBracket™ - Mini**
with PV-Kit attachment.
Note single fastener hole on each side.

**S-5!® Warning! Please use this product responsibly!**

S-5! Brackets and clamps are not tested for performance as part of a Fall Arrest or Personal Safety system. These applications need to be tested as a dynamic system and warranties or test results must be issued by the system provider.
Safintra, Safal Group and its subsidiaries provide no warranties or any assurances in this application, and will accept no claims of any nature whatsoever arising out of any such applications.

Products are protected by multiple international patents. For published data regarding holding strength, bolt torque, patents and trademarks visit the S-5! website at www.S-5.com.



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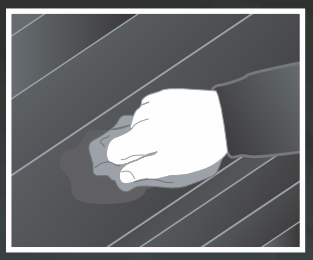
# S-5!®

## The Right Way

1



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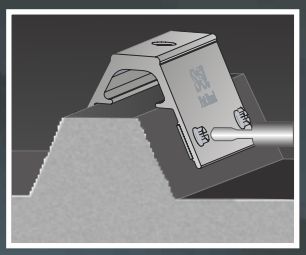


TrapBracket™

The right way to attach almost anything to metal roofs!

## TrapBracket™

TrapBracket™ can be used to mount Safintra's Tufdek IBR, Widedek and most other similar exposed-fastened trapezoidal roof profiles.

The TrapBracket comes with a factory-applied EPDM rubber gasket seal already on the base, and the S-5!® patented reservoir conceals the EPDM from UV exposure, preventing drying and cracks.

The TrapBracket is mounted directly onto the crown of the panel, straddling the profile. No surface preparation is necessary; simply wipe away excess oil and debris, align and apply. Secure through the pre-punched holes using the appropriate S-5! fasteners.

TrapBracket is the perfect match for the S-5-PV Kit, and facilitates quick and easy installation.

**S-5!® TrapBracket™ is the right way to attach almost anything to exposed-fastened trapezoidal roof profiles.**

S-5! PV kits have an M8 bolt and are suitable for use with all S-5! clamps.

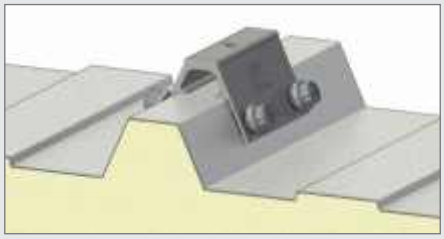
S-5!®
The Right Way

**TrapBracket™ is the perfect attachment solution for most trapezoidal exposed-fastened metal roofs! It can be used for almost any attachment need. No messy sealants to apply: the factory-applied EPDM rubber gasket weather-proofs and makes installation easy.**

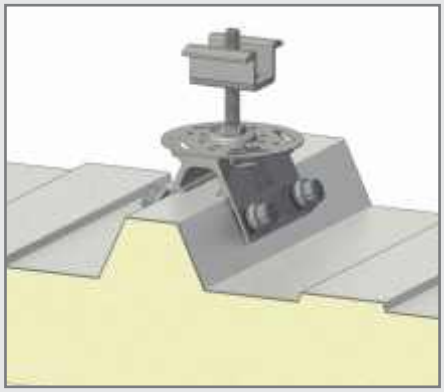
**S-5!® holding strength is unmatched in the industry.**

Each **TrapBracket™** comes with a factory-applied EPDM rubber gasket on the base. All pre-punched holes must be used to achieve tested strength.

For design assistance, contact Safintra South Africa (and see our website **www.safintra.co.za**), or visit **www.S-5.com** for the independent lab test data that can be used for load-critical designs and applications. Also, please visit S-5! website for more information including metallurgical compatibilities and specifications.

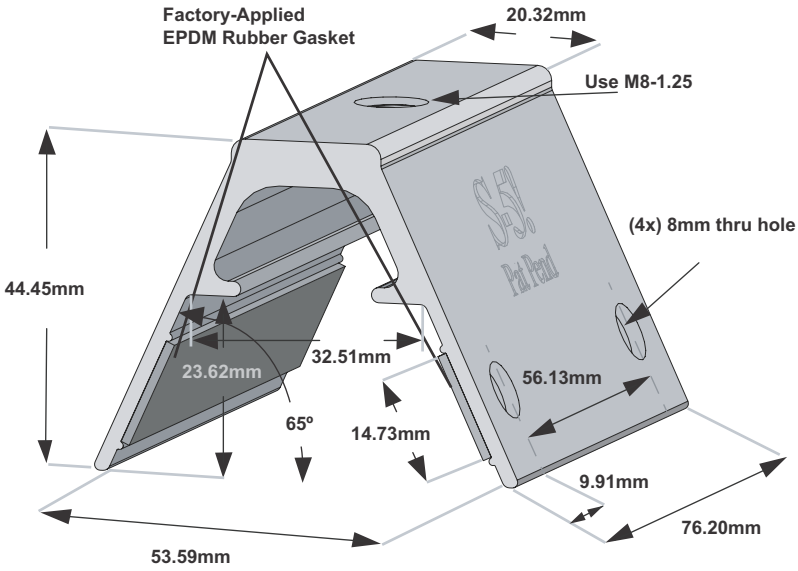


All 4 punched holes must be used to achieve tested strength.



The above illustration demonstrates the TrapBracket with the S-5-PV Kit attached.

## TrapBracket™




**Please note: All measurements are rounded to the second decimal place.**

## TUFDEK iBR

**S-5!® Warning! Please use this product responsibly!**

S-5! Brackets and clamps are not tested for performance as part of a Fall Arrest or Personal Safety system. These applications need to be tested as a dynamic system and warranties or test results must be issued by the system provider.
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S-5!®

The Right Way

The right way to attach almost anything to metal roofs!

## ProteaBracket™

ProteaBracket™ is the most versatile attachment solution on the market, fitting most metal trapezoidal sheet profiles with and without intermediate insulation. It features an adjustable attachment base and multiple solar module attachment options (illustrated on back) to accommodate varying widths and heights. There are no messy sealants to apply and no chance for leaks; the ProteaBracket comes with factory-applied, adhesive rubber sealant to ensure quick installation and a weather-proof fit.

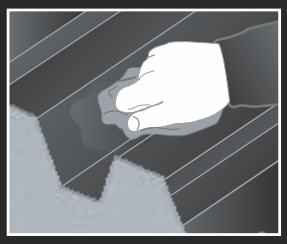
The ProteaBracket is mounted directly onto the crown of the panel, straddling the profile. No surface preparation is necessary; simply wipe away excess oil and debris, align, and apply. Secure ProteaBracket through all 6 pre-punched holes.

ProteaBracket is the perfect match for the S-5-PV Kit, for a solar attachment solution that is both economical and easy to use.

**S-5!® ProteaBracket™ is a versatile bracket that adjusts easily to most trapezoidal roof profiles.**

S-5! PV kits have an M8 bolt and are suitable for use with all S-5! clamps.

1



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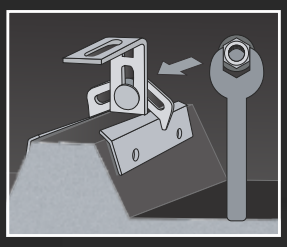

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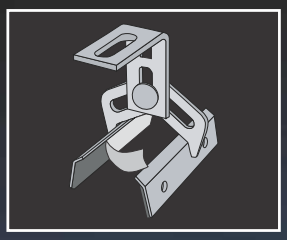

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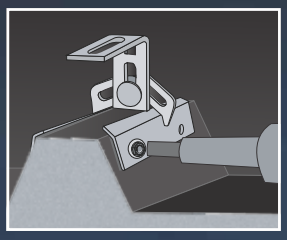


ProteaBracket™

S-5!®
The Right Way

**ProteaBracket™ is the perfect solar attachment solution for most trapezoidal exposed-fastened metal roof profiles. No messy sealants to apply: the factory-applied adhesive rubber sealant weather-proofs and makes installation easy.**

**S-5!® holding strength is unmatched in the industry.**

Each **ProteaBracket™** comes with a factory-applied, adhesive rubber sealant on the base. A structural A2 stainless steel bimetal attachment bracket, ProteaBracket is compatible with most common metal roofing materials.

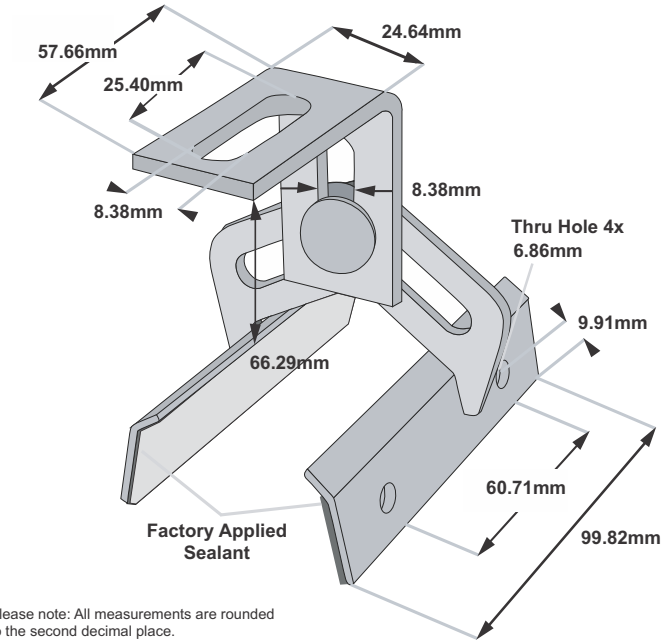
All four pre-punched holes must be used to achieve tested strength. For design assistance, contact Safintra South Africa (and see our website **www.safintra.co.za**), or visit **www.S-5.com** for the independent lab test data that can be used for load-critical designs and applications. Also, please visit S-5! website for more information including metallurgical compatibilities and specifications.

## Multiple Attachment Options:

**ProteaBracket™ with Top Rail option for PV attachment**

**ProteaBracket™ with S-5-PV Kit option (if not using a rail)**

## ProteaBracket™




Please note: All measurements are rounded to the second decimal place.

FLUTELINE

VERSATILE

**S-5!® Warning! Please use this product responsibly!**

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The Right Way

S-5-PV Kit and EdgeGrab™

## S-5-PV Kit and EdgeGrab™

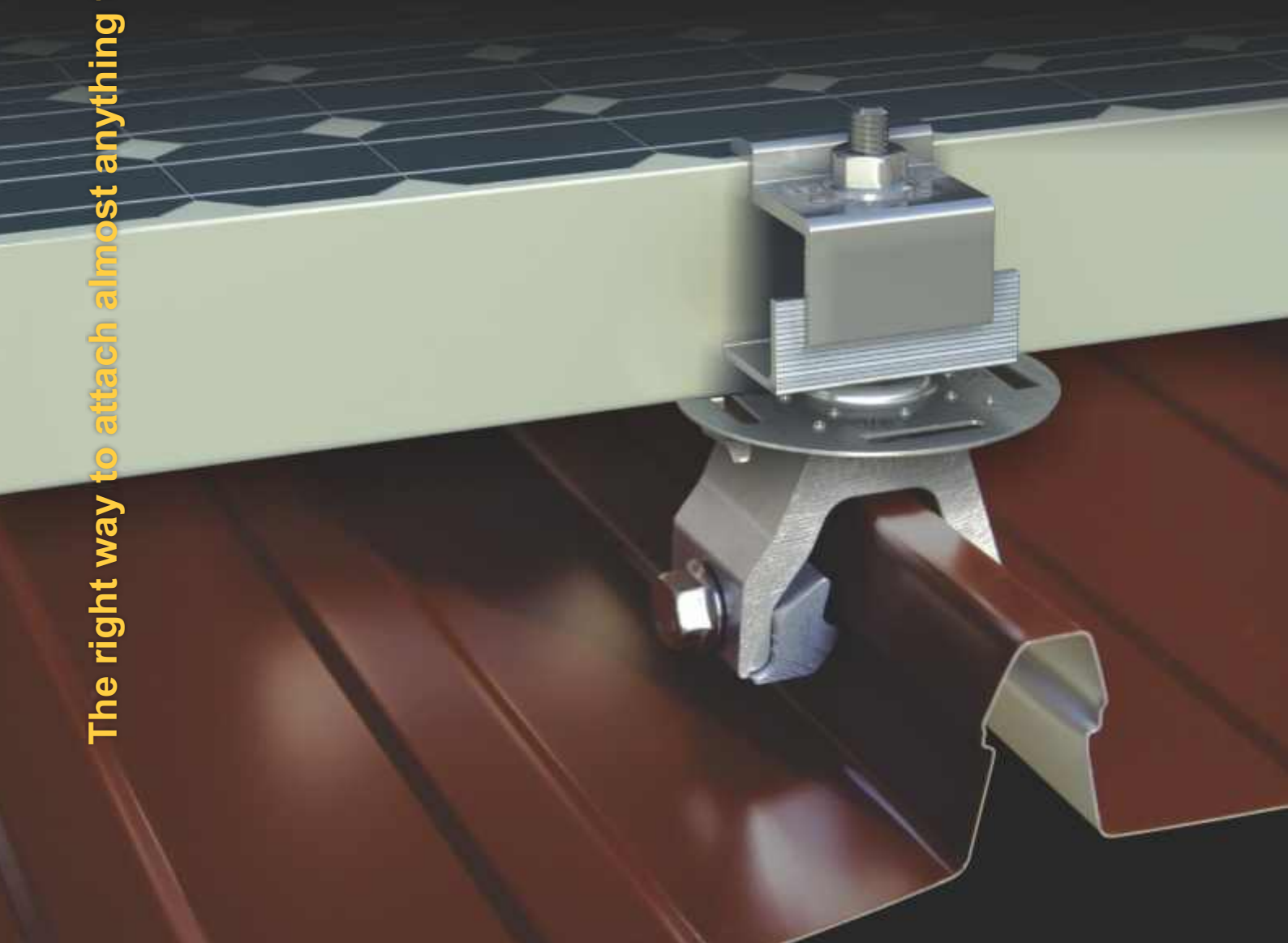
LISTED

The concept of combining photovoltaic arrays with standing seam metal roofing is growing— and for good reason. A standing seam metal roof has a life expectancy consistent with that of framed PV modules. A 30-year power source on a 40-year roof, along with zero-penetration technology, creates the most sustainable roof system for alternative power generation.

The S-5-PV Kit features a stainless steel mounting disk with twelve nodes designed to ensure the module-to-module conductivity of anodized aluminum module frames. This means the module is simply anchored with the kit and is automatically bonded. No lugs or wire are required except to connect one string of modules to another and to ground the system. This results in significant savings in installation time and materials, sufficient to pay for the entire S-5-PV Kit and clamp setup.

S-5! PV kits have an M8 bolt and are suitable for use with all S-5! clamps.

The right way to attach almost anything to metal roofs!



S-5!®
The Right Way

**The S-5-PV Kit is a revolutionary new solution to attach solar PV panels to standing seam metal roofs!**

**The S-5-PV Kit continues to be the easiest, most cost-effective way to install solar panels directly to standing seam metal roofs, remaining the most popular choice worldwide.**

The embossed panel guide makes the module placement easier. The mounting disk is multi directional and rails are not required.

Four strategically placed under-disk hooks assist in wire management. The PV grab ears that hold the solar panel in place are broader to allow for ease of installation and precise module engagement.

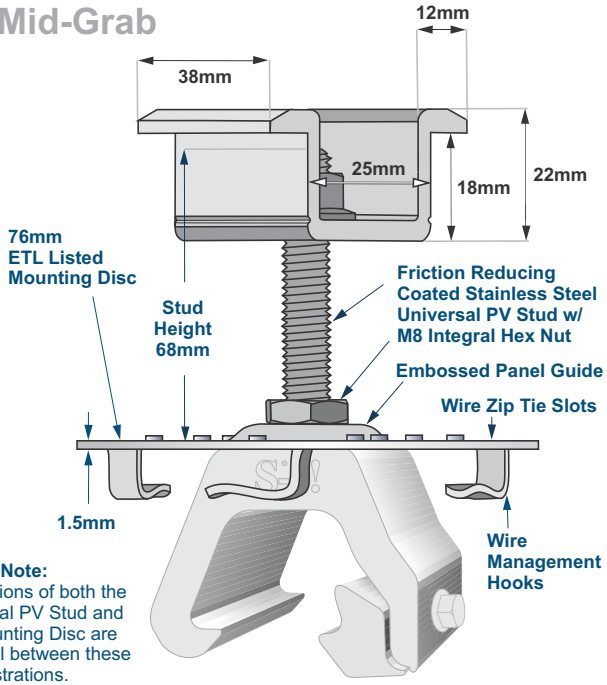
Accommodating module thicknesses between 30 and 51mm, the S-5-PV Kit fits the majority of solar panels on the market. Using the S-5! mini clamps, it fits most standing seam metal roofs. When paired with other S-5! products, the S-5-PV Kit and EdgeGrab will also work on most exposed-fastened metal roofs. The standard grab is designed to fit field conditions (two adjacent panels), while the EdgeGrab is designed specifically for end conditions.

Wind dynamics are complex; thus, each system should be reviewed by a qualified licensed professional who understands wind effects on metal roof design and construction prior to purchase and installation. For more detailed information including specifications, installation instructions, and CAD drawings, visit **www.S-5.com** or Safintra SA, **www.safintra.co.za.**

The **S-5-PV Kit** is furnished with the hardware shown at right, excluding the attachment clamp, which is supplied separately. The S 5-PV Kit is compatible with most common metal roofng materials, including brass. The S-5!® **EdgeGrab™** and S-5-PV Kit together accommodate PV frame thicknesses 30–48 mm (if the L-flange is positioned below the stud's hex nut) and 34–51 mm (if the L-flange is positioned above the stud's hex nut).*

Listed to UL subject 2703.
ETL Listed to UL 1703.*

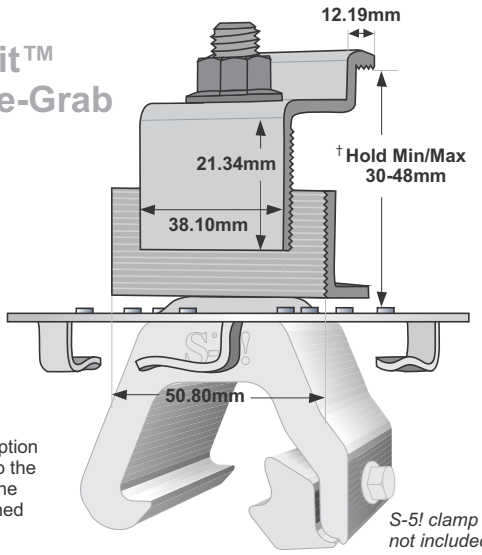
## S-5-PV Kit™ with Mid-Grab




**Please Note:**
Dimensions of both the Universal PV Stud and the Mounting Disc are identical between these two illustrations.

*S-5 Clamp not included*

## S-5-PV Kit™ with Edge-Grab




**Please Note:**
The assembly option in the diagram to the right illustrates the L-flange positioned below the stud's hex nut.

*S-5! clamp not included.*

**Please note: All measurements are rounded to the second decimal place**

** Patents pending.*
*Due to the variety of attachment needs, S-5-PV Kits are sold separately from S-5! mini clamps.*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# A WORLD CLASS ROOF NEEDS WORLD CLASS MATERIAL

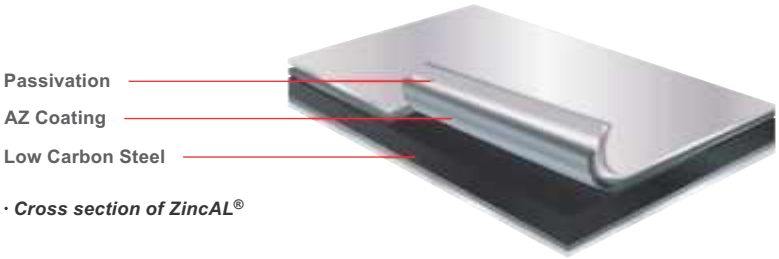
ZincAL® is manufactured using a patented Aluminium-Zinc coating alloy recognised as being the most technologically advanced metallic coating in use worldwide.

When used in the correct application, ZincAl offers you:

- **Considerable increase in service life**
- **Distinctive aesthetic appeal**
- **Superior thermal performance**

ZincAL®

**For Increased Service Life**

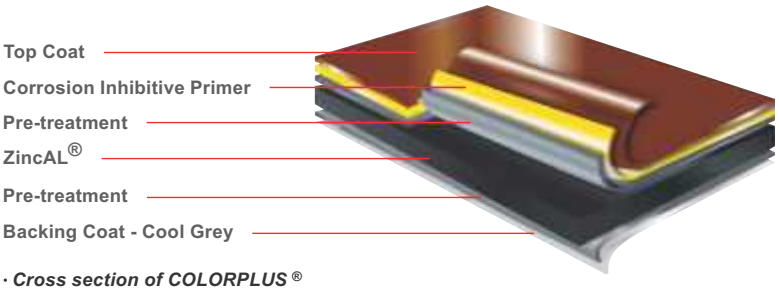



· ***Cross section of ZincAL®***

The coating alloy consists of 55% Aluminium, 43,5% Zinc and 1.5% Silicon. Their combined action in a metallic alloy coating increases the service life of the steel core by up to 4 times that of traditional zinc galvanised steel with the same coating thickness in the same physical environment.

COLORPLUS®

**For Aesthetic Appeal**




· ***Cross section of COLORPLUS®***

ColorPlus® is a factory pre-painted product, with colour applied over a ZincAL substrate, offering all the advantages of ZincAL with the option of colour for added aesthetic appeal.

The ColorPlus paint system has been carefully selected to endure the harsh African climate, and resist dirt or contaminant retention, so that the surface stays clean and the colour is fresh looking for as long as possible.

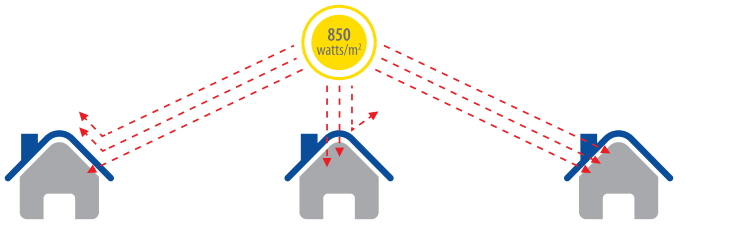
- ***COLORPLUS® is available in the following standard colours:***

| Sea Spray | Chalk | Savannah | Desert Sand | Sunset Red | Rustic Bark | Rain Forest | Deep Ocean | Rain Cloud | Slate | Thunder-storm |
|---|---|---|---|---|---|---|---|---|---|---|

Non-standard colours are available at the discretion of the mill, with minimum order quantities and extended lead times.

## Superior Thermal Performance

Less heat transmitted into building interior, giving cooler interiors in hot climates.




Both ZincAL and ColorPlus are proudly manufactured in South Africa by:

SAFAL STEEL
www.safalsteel.co.za

ZincAL® and ColorPlus® are registered trademarks of the:

SAFAL GROUP
www.safalgroup.com

# Technical Data **AZ Technology vs. GI Technology**

Version 2/2014

Steel is an important part of economic activity in most countries. Its use extends to almost all sectors of the economy, such as Engineering, Construction, Railways, Shipbuilding, Automotive and Consumer Goods. Steel does however have an inherent weakness in that when used unprotected and exposed to the environment, it corrodes very easily. To extend the service life of steel, it is generally coated with a corrosion inhibiting coating. The 2 most commonly used coatings to protect steel are:

- **Aluminium Zinc Coating (AZ)**
- **Galvanised Coating (GI)**

**Aluminium Zinc Coating**
The mild steel substrate is continuously hot dipped in a formulation of Aluminium (55%), Zinc (43.5%) and Silicon (1.5%). The combination of Aluminium and Zinc increases the sacrificial properties therefore extending the service life span of a steel roof by up to 4 times that of galvanised steel. The Aluminium components of the coating provide a tough physical barrier between the extreme atmospheric conditions and the inner core of steel. The Zinc in the coating protects the steel where exposed. Aluminium Zinc coating is a patented coating technology. Legitimate producers are registered with the license authority BIEC.

**Galvanised Coating**
The mild steel substrate is continuously hot dipped in an almost pure Zinc formulation. Zinc has inherent sacrificial properties and corrodes first before the mild steel core. Galvanising offers almost twice the service life of the steel substrate. A unique shiny spangle appearance gives galvanised steel its signature in the market.

## *Coating Comparison*

| AZ Coating weight g/m² | Nominal AZ Coating Thickness/microns | GI Coating weight g/m² | Nominal GI Coating Thickness/microns |
|---|---|---|---|
| AZ100 | 27 | Z200 | 27 |
| AZ150 | 40.5 | Z275 | 40.5 |
| AZ200 | 54 | Z350 | 54 |

**The higher aluminium content in the coating alloy results in a lower density*
**AZ offers an increase in service life up to 4x longer*
**Please note coating thickness under AZ100 or Z200 is not recommended for coastal or heavy industry applications*
**Micron count is approximate*

## *Product Comparison*

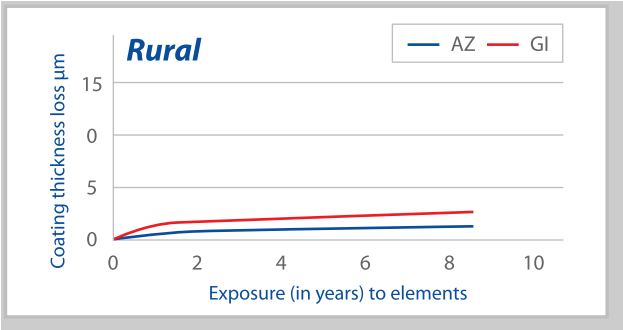
| AZ Coating | GI Coating |
|---|---|
| Continuous Hot Dipped process | Continuous Hot Dipped process |
| **55% Aluminium** | 0.2% Aluminium |
| 43.5% Zinc | 99.7% Zinc |
| 1.5% Silicon | - |
| Balance % trace elements | Balance % trace elements |

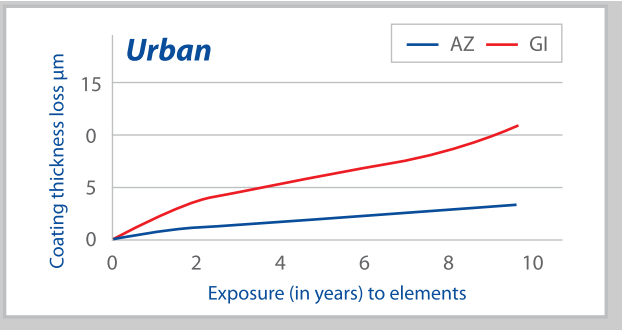
*Continued*

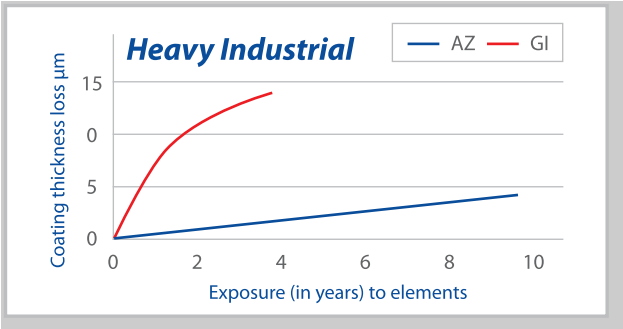
## *Product Comparison Continued*

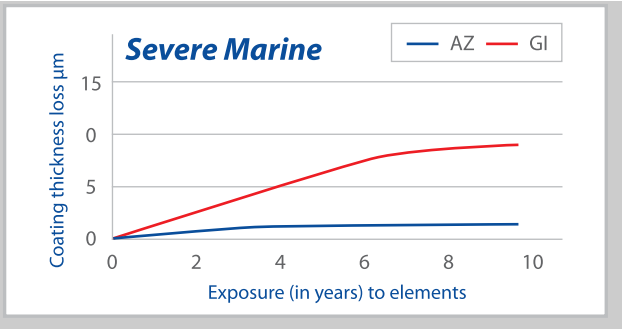
| AZ Coating | GI Coating |
|---|---|
| **Superior corrosion resistance:**<br>Aluminium offers barrier protection<br>Zinc offers sacrificial protection<br>*AZ150 after 240 hours of salt spray testing - no signs of deterioration  | **Medium corrosion resistance:**<br>Zinc offers sacrificial protection<br>*Z275 after 240 hours of salt spray testing - signs of red dust appear  |
| **Excellent heat reflectivity:**<br>*Roofing applications:* creates a cooler internal temperature in summer and a warmer temperature in winter due to reflection<br>*Appliance application:* AZ increases the appliances efficiency therefore lower energy consumption | **Moderate heat reflectivity:**<br>Due to low reflection values the heat loss is greater creating a hotter internal temperature in summer and a colder temperature in winter. |
| **Heat Resistance:**<br>AZ can reach temperatures up to 675°C<br>Product can be used up to 315°C before discolouration | **Heat Resistance:**<br>GI can reach temperatures up to 480°C<br>Product can be used up to 400°C before discolouration |
| Superior cut edge protection | Superior cut edge protection |
| Superior formability | Superior formability |
| Superior weld ability: generates less zinc fumes | Medium weld ability |
| Small, uniform unique spangle  | Medium/large irregular spangle  |
| Silver, white in colour | Silver, grey in colour |
| Matte finish | Shiny, bright finish |

## *Life expectancy of AZ Technology vs. GI Technology in relative environments*




***Graphs replicated from BIEC International Inc.***

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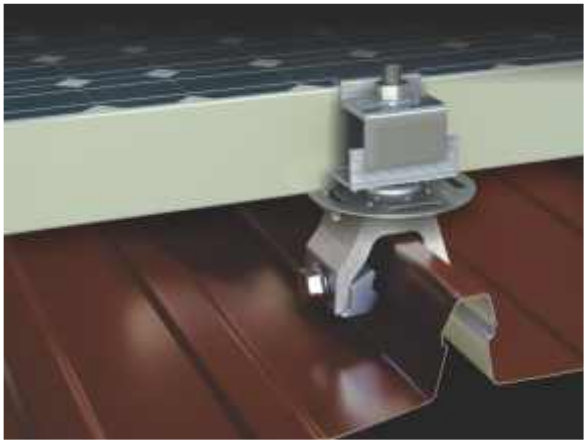
# MAKING ROOFS WORK SMARTER

S-5! CorruBracket™ for corrugated profiles

S-5! TrapBracket™ for trapezoidal profiles

S-5-K Grip™ for Saflok and similar concealed fix systems



S-5-PV Kit™ for solar module attachment

## S-5!® is the right way to attach almost anything to metal roofs:

- Non-penetrating clamps for concealed fix systems preserves sheeting warranties
- Profile-specific attachment brackets for all pierced fix sheets
- Engineered for attachment of PV panels, walkways, HVAC, safety rails, signage and more

## S-5 clamps offer:

- High tensile aluminium and non-ferrous stainless steel hardware
- Material compatibility with aluminium-zinc coated steel
- 25-year manufacturer's warranty on all product components
- Unequalled holding strength, average load-to-failure of 1000kg

S-5!® The Right Way

A member of the SAFAL™ GROUP

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**FULL SERVICES ALSO OFFERED IN:**
Botswana
Zimbabwe

**Safintra** is part of The Safal Group, the largest steel roofing company in Africa. Perhaps more importantly, we are also the longest established group in our field - speaking volumes about the depth of our commitment to our clients, and our pride in what we do.

**Making a World of Difference**

SAFAL GROUP

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For more information please visit: *www.safalgroup.com* or *www.safintra.com*