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.

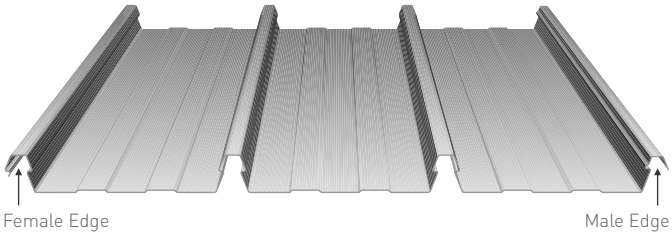
SAFLOK 700 is a concealed fix sheet profile with an effective cover width of 700mm. It is an angular interlocking standing seam trapezoidal rib profile, and is usually roll formed on mobile mills on the building site.

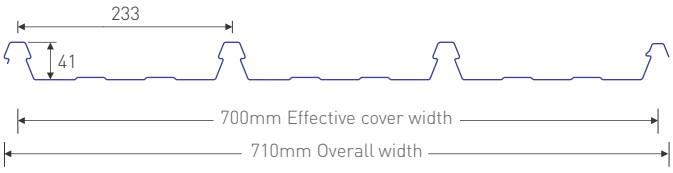
CLIPPING SYSTEM

The SAFLOK 700 clip incorporates a dual action component to positively hold down the male-female joint on every third rib, and an anchor to clasp the two inner ribs. Every rib is therefore secured, making it fully interlocking. It is essential that the male rib is directly engaged to the underside of the clip.

Clips for Aluminium Material:

- An Aluminium clip is a necessity when using Aluminium Material.
- When using Aluminium material on galvanized steel purlins it is recommended to make use of an isolation tape to prevent the bridging of the two dissimilar materials. The recommended tape is a "Denso LDP 300" or similar. Should the two metals have direct contact it will ultimately result in the manifestation of galvanic corrosion. The service life of the Aluminium will be compromised.





MATERIAL OPTIONS

Aluminium - Zinc	**Gauge (mm)**	
AZ150 G550 Unpainted	0.50	0.55
AZ150 G550 Painted	0.50	0.55
Aluminium	**Gauge (mm)**	
Aluminium Mill Finish	0.70	0.80
Aluminium G4 Colortech	0.70	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 class 3 wafer head self-tapping screws, all in accordance with manufacturer's recommendations.

The sheeting will be a double interlocking concealed fix "SAFLOK 700" profile as manufactured by Safintra Roofng, 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.

We do not recommend using Saflok on a roof pitch exceeding 5 degrees due to the possibility of oil canning.

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PURLIN SPACINGS

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

Span tables are for SAFLOK 700 with light foot traffic only. Span tables are based on 1.5kPa downward pressure, 1.6kPa upward pressure and 0.75kPa for the side cladding, inward or outward. The span tables are maximum recommended spans based on buildings up to 10m high in Region B, Terrain Category 3. 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)

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	1 700	2 100	1 500
Internal/Double Span	2 000	2 300	2 000
Cantilever (Unstiffened)	150	260	180
Cantilever (Stiffened)	350	400	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.

WIND SPEED TABLE	
Wind Zone	**Purlin spacing for sheeting**
Low (32 m/s) 115km/h	As per the profile span tables
Medium (37 m/s) 133km/h	As per the profile span tables - 5%
High (44 m/s) 158km/h	As per the profile span tables - 25%, all roof perimeters secured
Severe (50 m/s) 179km/h	As per the profile span tables - 25%. Consult your local Safintra branch

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.					

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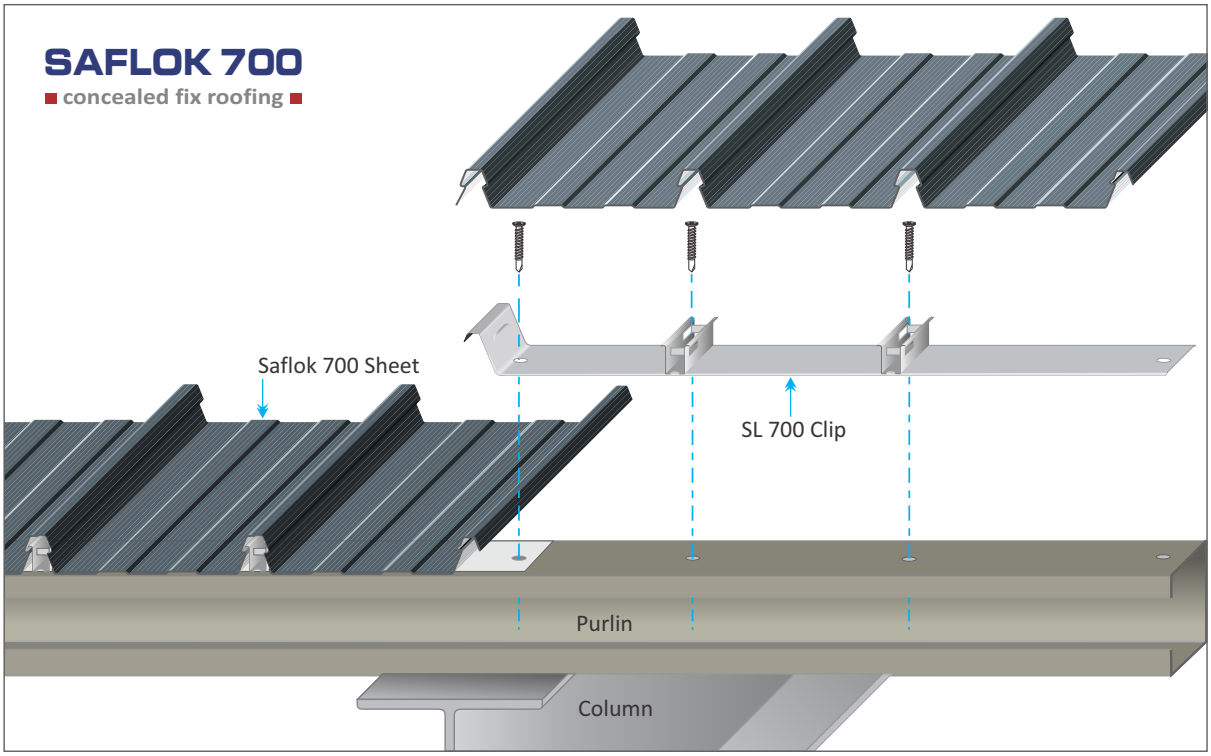
STANDARD INSTALLATION DETAILING (WIND CATEGORY 3 AND 4)

Note 1: sheets are always laid into the prevailing weather. The first sheet is laid on the leeward (downwind) edge of the roof, with a female rib on the outermost edge.

Note 2: If using a bullnosed sheet, bear in mind that the bullnosing is specific to the orientation of the roof surface, and should be specified in your order eg: 20 sheets L to R, 20 sheets R to L.



See installation video at www.youtube.com/watch?v=1836rLR6IEg

Step 1
Fix the first SAFLOK-700 clips perpendicular to the gutter in a straight line on the edge first sheet to ensure straightness. Care should be taken to ensure that the overlap is facing away from the prevailing weather.

Step 2
Locate the first sheet above the clips ensuring that the overhang into the gutter is correct. Push downwards on the SAFLOK-700 sheet until the decking is secured at every clip. Do not use excessive force.

Step 3
Lap the next SAFLOK-700 clip over the top of themale rib.

Step 4
The holes on the existing and new clip will align and hook into place on the self locating tabs. Fasten this section first and fix the remaining two holes as previously. Fasten all clips in this manner.

Step 5
Lay the next SAFLOK 700 sheet. Inspections should be made periodically to ensure the decking is installed squarely. This can be done by comparing the coverage at the ridge and gutter line. At the end of the purlins cut the deck and clip to suit.

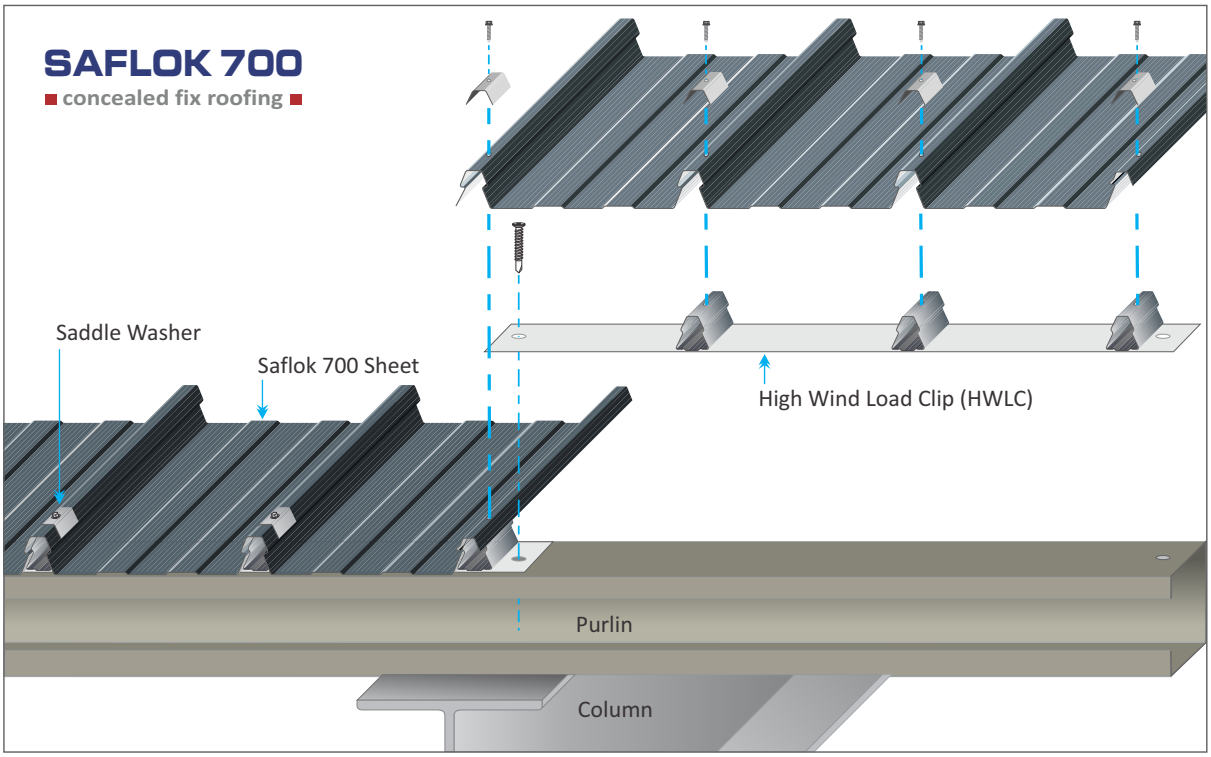
Step 6
Locate the next sheet above the clips ensuring that the overhang into the gutter is correct. Proceed as from Step 2.

***NEVER** re-use a Saflok 700 clip

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

HIGH WIND LOAD INSTALLATION DETAILING (WIND CATEGORY 2 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 1 & 2, or areas with wind speeds exceeding 120km/h. (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. When using the HWLS the roof slope should not be less than 4°.



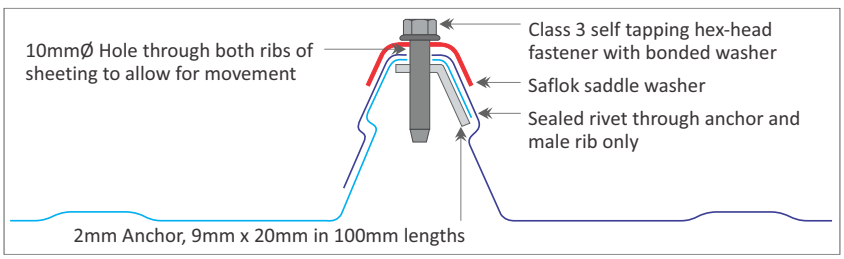
Step 1. Starting with the female rib first, align first sheet and hold down.

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 class 3 or 4 fastener.

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

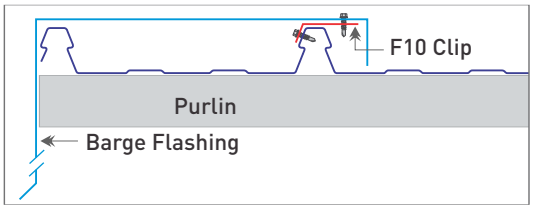
Note: The bonded washer can only be fixed from the top.

HIGH WIND LOAD SYSTEM: MID SPAN FIXING DETAIL AT EAVES



For aluminium material, we recommend positive fixing on exposed eave purlins, in conjunction with a saddle washer. Allowance for thermal expansion and sheet movement should be accommodated with a pre-drilled and slotted hole.

F10 BRACKET FOR FLASHINGS



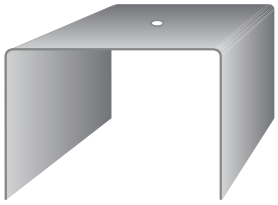
Note: this clip is positively fixed. Care should be taken when detailing industrial-length sheeting and flashing due to thermal expansion.

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

SPECIALISED FIXING ACCESSORIES

INSULATION SPACER

For any blanket insulation thicker than 50mm, spacers need to be used.
Spacers can be manufactured to specific requirements.



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.

SAFLOK 700 ROLLING MILL

SAFINTRA
world class roofing systems

CONTACT DETAILS

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.

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