PRODUCT DESCRIPTION & FEATURES

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

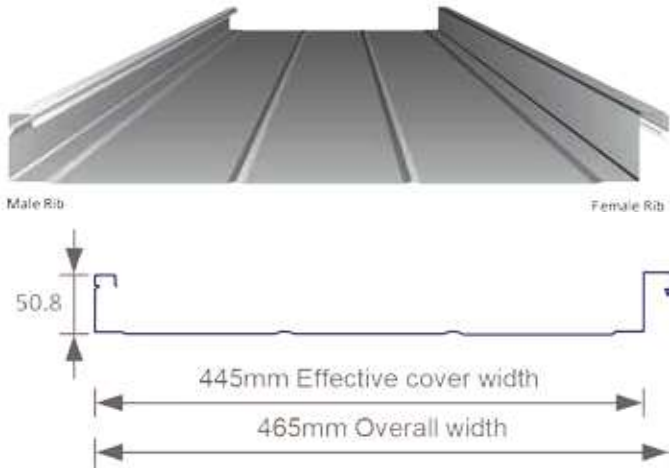
Newlok's unique interlocking clipping system incorporates a concealed cleat to positively hold down the male-female joint at every rib. The profile can be roll-formed by a mobile mill on the building site, in continuous lengths. The two-part cleat allows for natural thermal expansion and contraction of the sheet, and the 50,8mm rib height delivers optimal water shedding capabilities at slopes as low as 1.5°.

SAMPLE SPECIFICATION

Safintra Newlok, roll-formed in 0.50mm Colorplus® AZ150, unseamed/seamed, fixed to steel internal purlins at 1600mm, and steel ridge/eaves purlins at 1400mm centres using Newlok clips which must be positively fixed to purlins with Fixtite® or Safintra approved wafer head self tapping fasteners, all in accordance with the manufacturer's recommendations.

The roof sheeting shall be manufactured by Safintra, 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.



MATERIAL OPTIONS

Aluminium - Zinc	Gauge (mm)
AZ100/150/200 G550 Unpainted or pre-painted	0.47 0.50 0.53 0.55
Aluminium	**Gauge (mm)**
Aluminium Unpainted or prepainted	0.80
Rheinzink	**Gauge (mm)**
Rheinzink Material	0.80
Zinc-Coated	**Gauge (mm)**
Z200/Z275 ISQ550 Unpainted or pre-painted	0.50 0.58*
Other gauges are available on special request. All material is subject to availability.	
* Available in G275/ISQ300 only	

Note 1

Note that when using Aluminium material on galvanized steel purlins, the 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.

PURLIN SPACINGS

Span tables are for Newlok with light foot traffic only. Span tables are based on 1.5kN downward load and 2kPa negative wind loading. 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.

GAUGE	0.47	0.50	0.53	0.55	0.80
MATERIAL	ALUMINIUM -ZINC	ALUMINIUM -ZINC	ALUMINIUM -ZINC	ALUMINIUM -ZINC	ALUMINIUM
ROOFS	mm	mm	mm	mm	mm
Single Span	1100	1200	1400	1500	900
End Span	1300	1400	1600	1700	1100
Internal/Double Span	1500	1600	1800	1900	1300
Cantilever (Unstiffened)	150	150	150	150	100
Cantilever (Stiffened)	300	300	300	300	200
Side Cladding					
End Span	1800	1900	2100	2200	1500
Internal Span	1900	2000	2200	2400	1700
Cantilever	150	150	150	150	100
Approximate Mass/kg	7.7	8.2	8.7	9.1	5
Design requirements exceeding the above, should only be considered in consultation with the Safintra Technical Department.					

Newlok cleats are calculated at 110g per clip - You will require approximately 3 clips per m².

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

DRAINAGE TABLE

DRAINAGE TABLE	ROOF SLOPE			
PEAK RAINFALL INTENSITY (mm/h)	1:50 (1°)	1:30 (2°)	1:20 (3°)	1:12 (5°)
150	208	294	360	465
200	156	220	270	349
250	125	176	216	279
300	104	147	180	233
350	89	126	154	199
400	78	110	135	174
500	62	88	108	139
Maximum roof sheet length (m)				

NOTE 2

Concealed fix side cladding must be pierced fixed for prevention of sheet movement due to gravity. Pierce fix the bottom and top of the sheets. Internal pierce fixing may be necessary on longer sheets. Cladding is to be fixed in the pan of the sheet with 12x25mm Fixtite Fasteners - Class 4 only.

*refer to the Safintra Technical Department for more information
www.safintra.co.za

LENGTHS & ROOF PITCH

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 13.2m).

FIXING GUIDE

FASTNERES

The Newlok cleat 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 unseamed configuration is adequate due to reduced loadings.

FASTNERS FOR NEWLOK		
	ROOF	FLASHINGS
Steel	#10 x 22mm Metalfix wafer head	#14 x 22mm Metalfix stitching screw, hex head, tapered
Timber	#10 x 45mm Timberfix wafer head	

NEWLOK SINGLE-PART FIXED CLEAT

The Newlok fixed cleat is used to secure the Newlok profile to the purlins. These cleats are used on residential roofs where the sheets are not excessively long and thermal expansion is minimal.

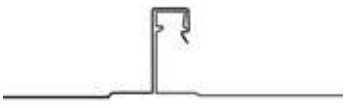
NEWLOK TWO-PART CLIP

The Newlok sliding cleat is used to secure the Newlok profile to the purlins. These cleats are used in Industrial and Commercial roofs where the sheets are long and thermal expansion is prevalent.

NEWLOK FEATURES AND BENEFITS

- Unique profile offers either an unseamed or seamed 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.

Rolling the panels together



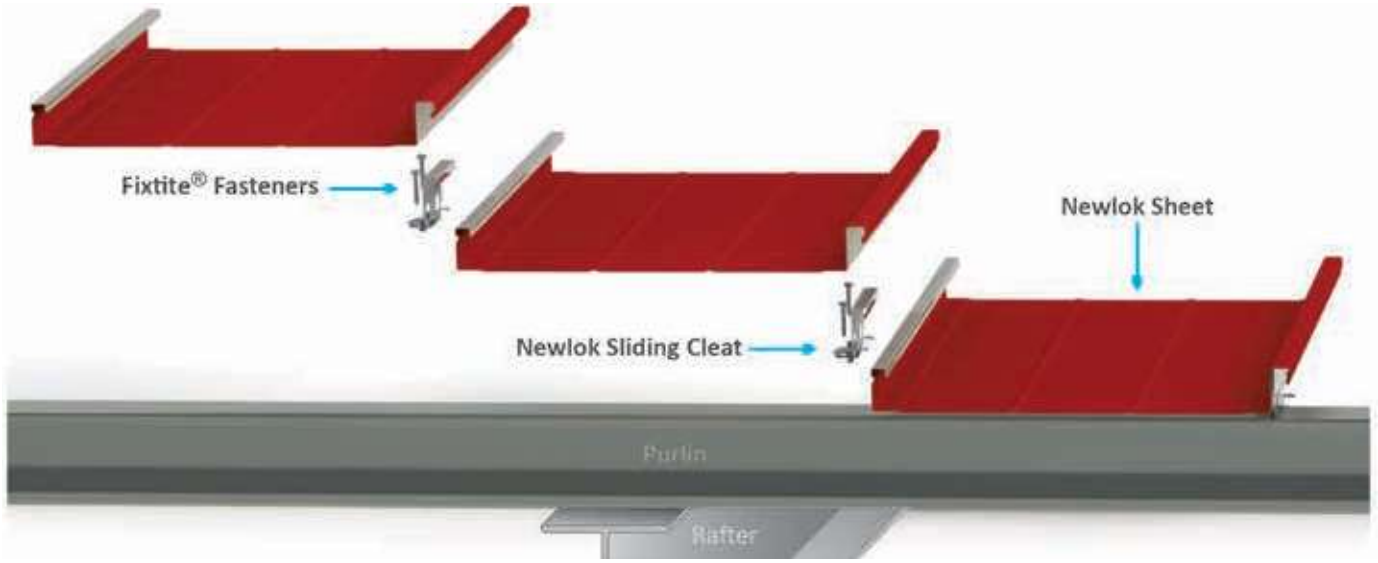
Unseemed system

Seamed system

NEWLOK INSTALLATION

1. Starting with the female rib first, align the first row of cleats and fasten on all fastening positions.
2. Roll the sheet over the cleats and lock the sheet into place.
3. Engage and fasten the next row of cleats over the male rib. Repeat from step 2.

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

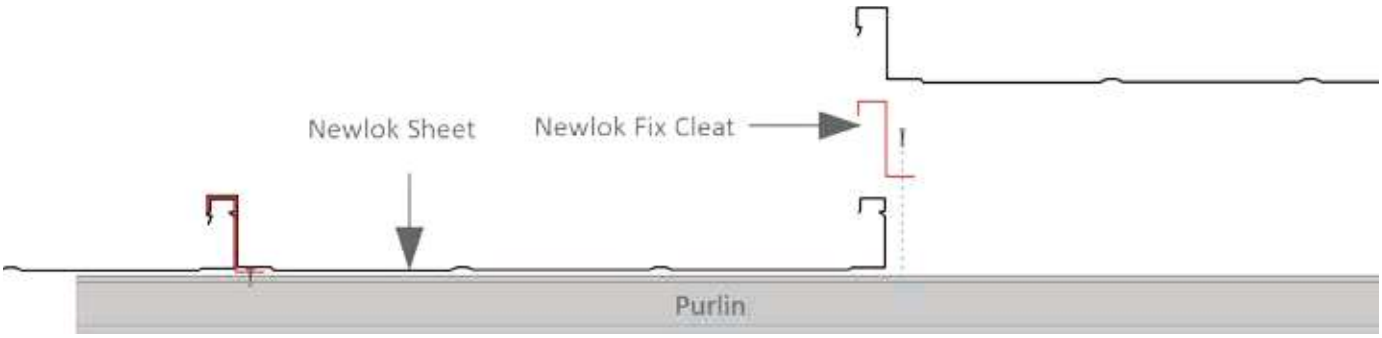


Newlok Mobile Mill

SPECIALISED FIXING ACCESSORIES

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

All overhangs greater than 500mm require seaming. These include canopies, walkways, lean-to roofs, loading bays and decorative roofs. Overhangs are prone to a build up of wind pressure and are considered to be the weak point of any roof.



90° Hand Crimper

Mechanical Seamer

The Mechanical Seamer and Hand Crimper come as a complete package. The hand crimper is used to initiate the seaming process, which is then followed by the mechanical seamer. The Mechanical seamer has a reverse function, for ease of use up and down the slope.

Care should be taken when using the mechanical seamer that all 3 handles are engaged to ensure complete forming of the seam.

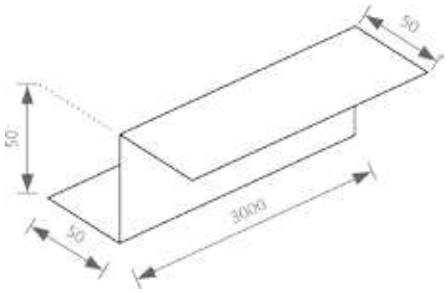
Care must also be taken when using the Hand crimper, as over engagement of the seam can create seam markings on the rib of the profile.

SPECIALISED FLASHING INSTALLATION

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

Sheet Length (m)	Transverse (Ridge, Apex, Headwall)	Longitudinal (Barge, Sidewall)
<20	F10 Bracket -Every Rib	Z- Bracket Every 500mm
>20	F10 Bracket -Every Rib	Z- Bracket Every 500mm

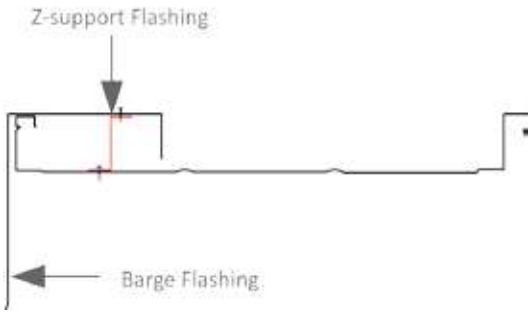
Z-SUPPORT FLASHING



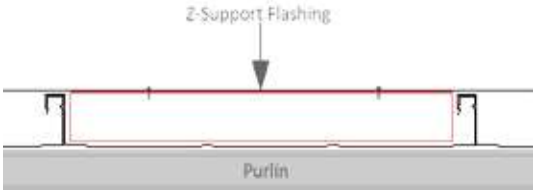
The Z-Support flashing is used to create a false rib in the pan of the Newlok profile. This flashing is fastened through the sheet into the purlins and sealed with a butyl or neutral cure silicone sealant. This flashing also creates a fixing platform for flashings. Other flashings are fastened to the Z-Support flashing at no more than 500mm centers.

NOTE 1
This flashing is positively fixed. Care should be taken when detailing industrial length sheeting and flashings due to thermal expansion.

Newlok Z - Support Flashing for Longitudinal Flashings



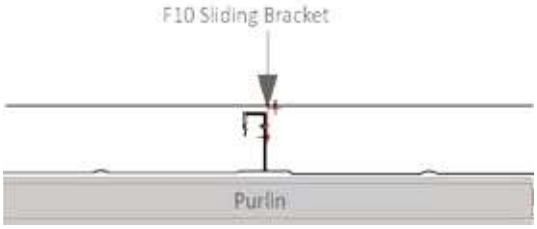
Newlok Z-Support Flashing for Transverse Flashings



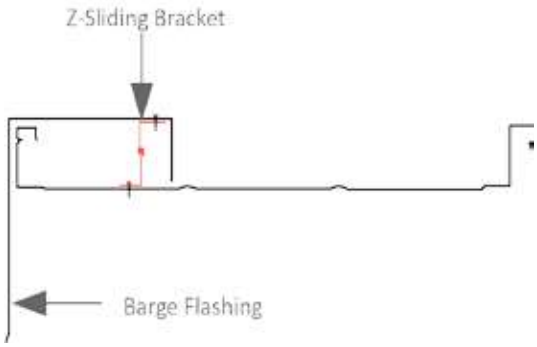
F10 SLIDING BRACKET

The F10 Sliding Bracket is designed to slide with the thermal expansion and contraction of the roof sheeting.

F10 Sliding Bracket for Transverse Flashings



Newlok Z-Sliding Bracket for Longitudinal Flashings



NEWLOK LIPPING & BENDING TOOL

The bending tool is used to bend the pan up on the ridge side of the sheet to create a water barrier (tanking or turning up). The tool on the bottom is used on the eave side of the sheet to create a turned down lip (Lipping or turning down).

Newlok bending tool application

Newlok lipping tool application

ROLLING STRAIGHT ONTO A ROOF

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

DIMENTIONAL TOLERANCES

A length variation range of +10mm and -0mm, and a width tolerance of ±3mm are permissible.

NOTE 2

Newlok cannot be bullnosed, cranked or sprung