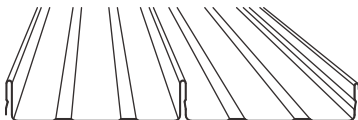


# Global Roofing Solutions Brownbuilt™



Talk to us, **THE SMART ROOF PEOPLE**  
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# Typical specification

## Materials

The roofing / side cladding shall be Brownbuilt™ profile, roll-formed in continuous lengths and can be light industrial / heavy industrial in (select from table below). Brownbuilt™ is obtained from Global Roofing Solutions (Pty) Ltd.

Material	Steel	Colour One Side	Colour Two Side
Galvanised Z275	ISQ 300	_____	_____
Chromadek® Z200		✓	Special
Zincalume® AZ150	G300	_____	_____
Clean COLORBOND™ AZ150		✓	Special
Aluminium 3004 or Ezi Clad	3004	_____	_____
Color-Tech G4 3004		✓	Special

## The Profile

The profile shall have three standing ribs at 203 mm centres giving a nett cover of 406 mm. The rib height shall be 48 mm and provide capillary breaks. Each pan shall incorporate two stiffener ribs.

## Assembly

It is recommended that Brownbuilt™ sheeting be laid by an approved contractor in strict accordance with manufacturers specifications. When using a GRS (Brownbuilt) Approved Contractor, a five year guarantee of site-workmanship and water-tightness can be issued after approval by Global Roofing Solutions (Pty) Ltd.

## Flashing

Stop endings must be formed at the apex and the pan turned down at the eaves to form a drip. The roof sheeting shall be closed as necessary with purpose made flashings of a design approved by the supplier. These flashings shall be notched around ribs where necessary and fixed on S1 clips. All these operations must be performed with special tools available from the supplier.

## Site handling

All Brownbuilt materials should be suitably supported under cover until required to be hoisted into final position.

## Cleaning up

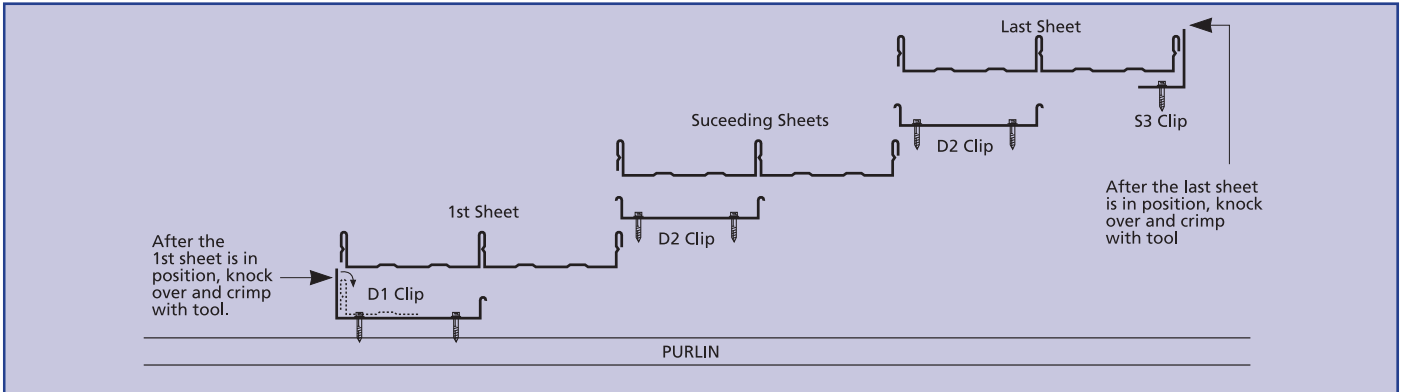
The completed roofing, including gutters, must be handed over free of any swarf and other debris.

## Quality assurance

The manufacturer shall be assessed and certified as complying with ISO 9001:2008 Quality Management System.

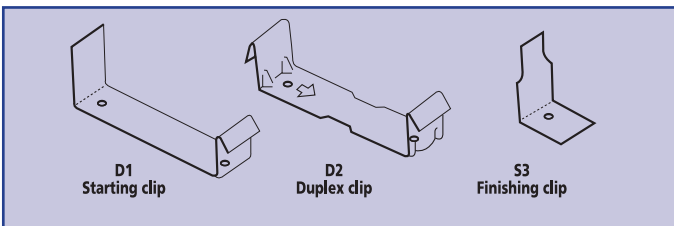


# The concealed fixing concept



## Fasteners

The recommended fasteners for fixing the clips to steel or timber purlins are as follows:



### Steel Purlins 1mm to 4,5mm thick

No.10-16 x 16mm long self drilling Wafer head PH2 screws #3 drill point.

### Steel Purlins 6mm to 12,5mm thick

No.12-24 x 38mm long self drilling Wafer head PH3 screws #5 drill point.

### Timber Purlins

No.10-11 x 45mm long self drilling Wafer head PH2 screws, type 17 drill point.

**\*For light steel frame purlins less than 1mm thick, please contact GRS.**

**Where insulation is installed** between purlin and sheeting, the length of screws should be increased depending on the compressed thickness and density of the insulation.

**For Steel Purlins** – At least 3 threads should protrude past the support.

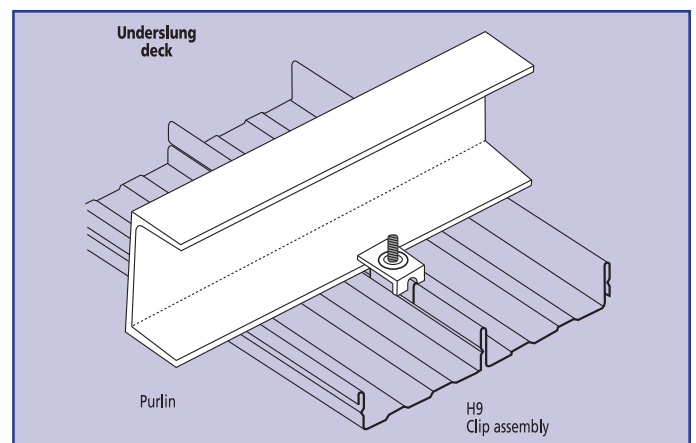
**For Timber Purlins** – The screw should penetrate the purlin by the same depth recommended as if there was no insulation.

### Note

Where screws exceed 45mm long, they should be No.12 with a PH3 head.

## Brownbuilt™ sheeting as ceiling

Brownbuilt™ roofing is also used as an economical ceiling combination for canopies, shop verandahs, link corridors and suspended roofs.



### Note

Fasteners must be selected to match the life expectancy of the roofing and cladding material. Class 3 fasteners, complying with SANS 1273, should be used in conjunction with all roofing and cladding material.

# Additional applications

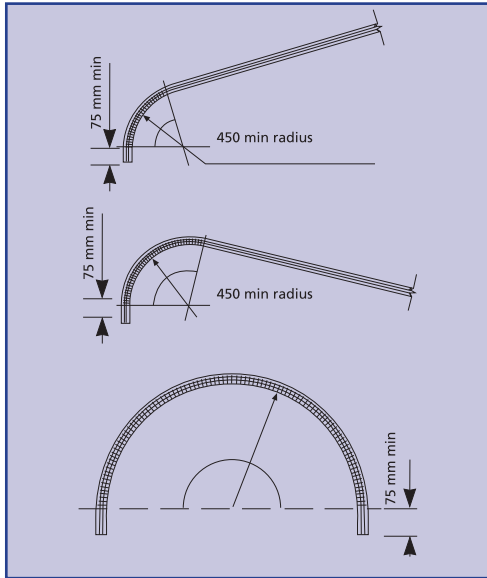
## Sheet lengths

Available ex-factory in sheet lengths limited only by transport restrictions, normal loads 12.5 m and abnormal loads 18.6 m. Longer lengths can be milled on site, obviating end laps which are not recommended on low pitch lengths.

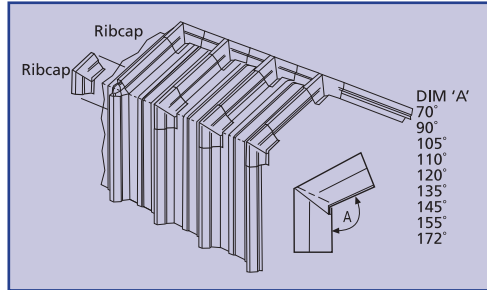
End lapping negates the concealed fix concept and no water tightness guarantee can be given. End lapping also reduces the life expectancy of the roof, due to corrosion.

NOTE: When using cranked sheets consideration for road transport has to be taken into account. Refer to the GRS Installation Manual for detailed dimensions and fixing instructions.

## Bullnosing and cranking

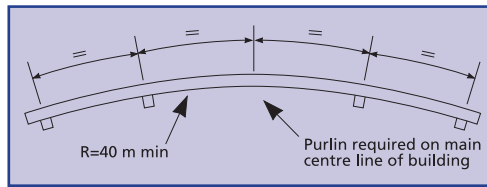


## Rib cap detail



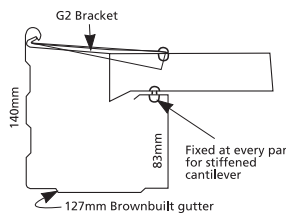
## Springing

Straight sheets may be sprung on site over a rounded structure with a minimum radius of 40 metres.



## Gutters and fascias

Brownbult in addition offers a fascia gutter and a fascia capping, with horizontal stiffening ribs rolled in, giving a clean unbroken surface.

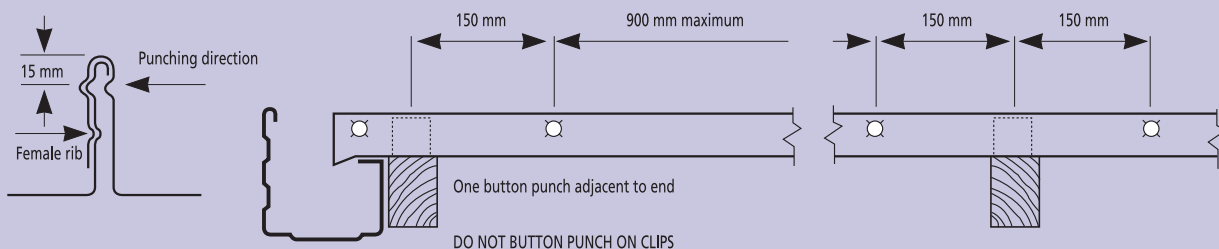


Used both as gutter and barge capping, the fascia gutter permits clean lined eaves for an attractive finish. With the gutter attached by means of verandah bolts to the sheeting trough and the concealed support clip pop rivetted to the narrow flute of the sheeting at 1218 mm centres.

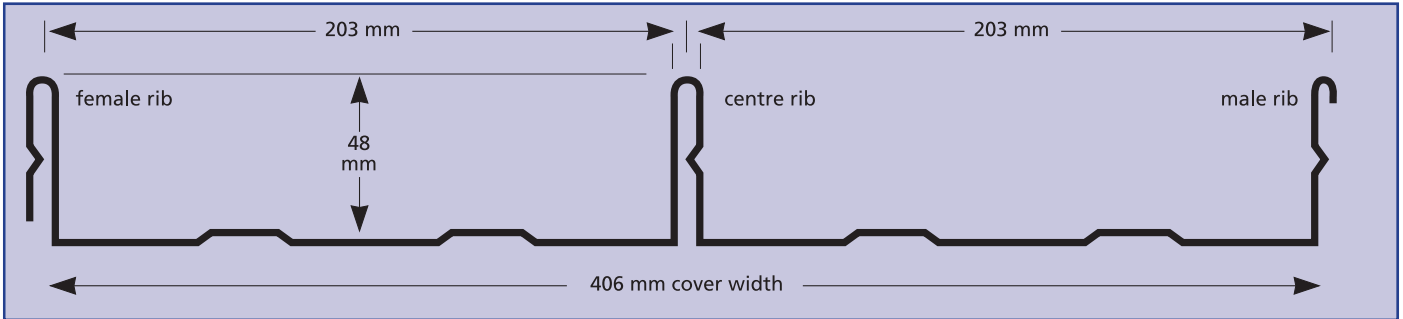


## SIDE LAP STITCHINGS

A string guide is used to ensure straight line punching and to develop a maximum shear strength, the cone of the punch should point away from the direction of laying.



# Profile : Brownbuilt™



## Load span table

The recommended purlin support centres are based on the following design criteria and obtained through testing:

	Ultimate Superimposed Distributed Load	Ultimate Uplift Load
<b>ROOFS</b>	1.50 kN/m <sup>2</sup>	1.60 kN/m <sup>2</sup>
<b>WALLS</b>	0.75 kN/m <sup>2</sup>	

## Drainage table

Maximum roof run (in metres) for roof slopes and rainfall intensities shown. These figures are based on unrestricted, free flow of water.

Roof Slope	Rainfall Intensity mm/h			
	250	300	400	500
1 in 50 (1°)	100	85	63	51
1 in 30 (2°)		100	80	64
1 in 20 (3°)			94	75
1 in 12 (5°)				90
1 in 7.5 (7.5°)				100

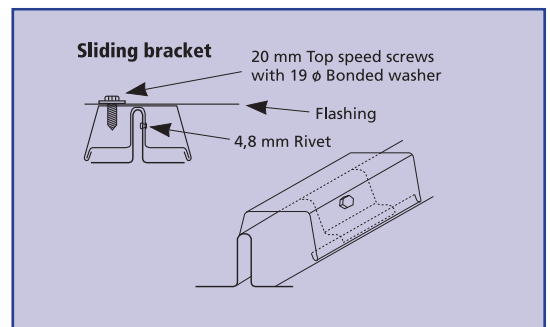
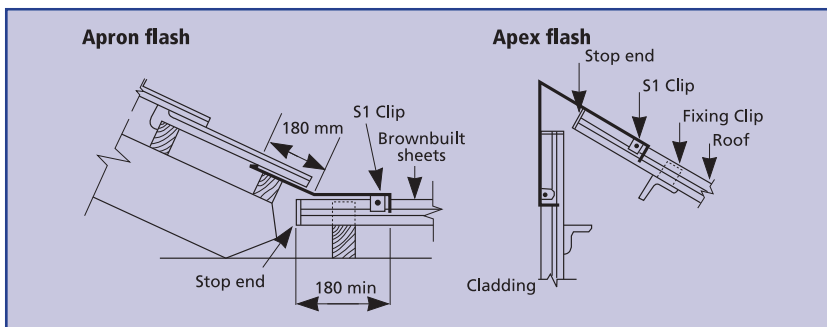
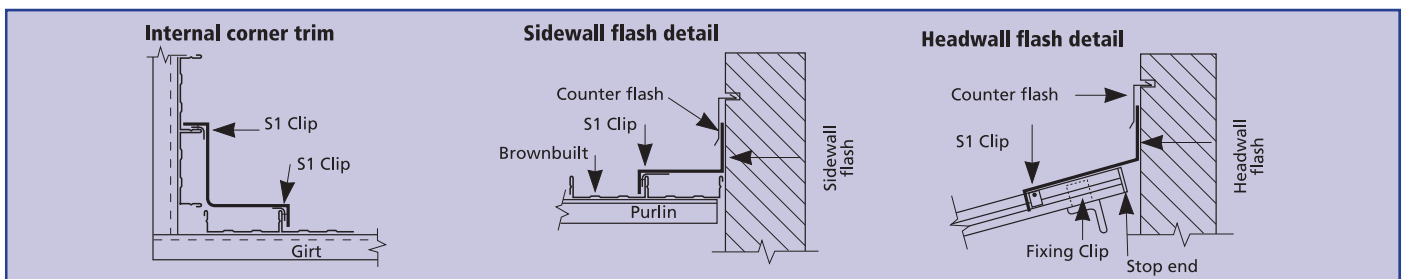
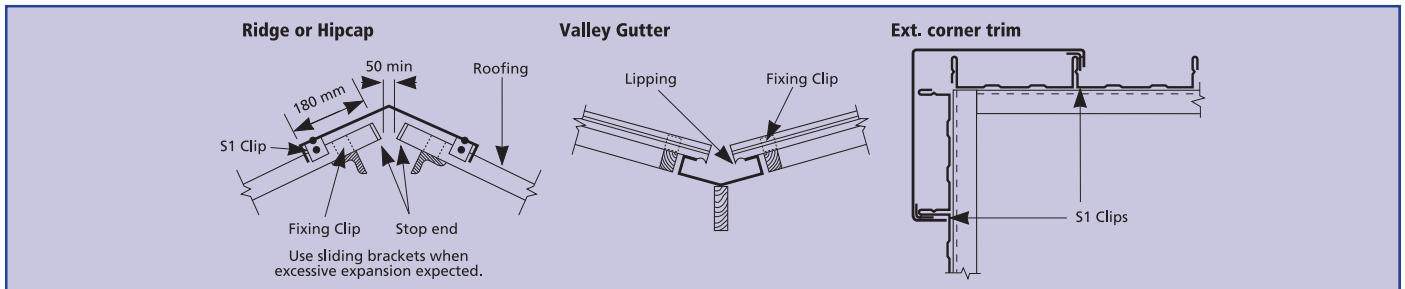
## MAXIMUM ALLOWABLE SUPPORT SPACINGS

TYPE OF SPAN	0,58 mm ISQ 300 Steel	0,8 mm ISQ 300 Steel	0,8 mm Aluminium	0,9 mm Aluminium	0,6 mm Stainless Steel
<b>Roofs</b>					
Single Span	1.500 m	2.400 m	1.200 m	1.500 m	1.500 m
Internal Span	1.800 m	2.700 m	1.500 m	1.800 m	1.800 m
End Span	1.500 m	2.400 m	1.200 m	1.500 m	1.500 m
Cantilever (unstiffened)	0.200 m	0.300 m	0.100 m	0.100 m	0.200 m
Cantilever (stiffened - max sheet length of 13m)	0.450 m	0.600 m	0.100 m	0.100 m	0.450 m
Single Span with Tile Finish	1.200 m	2.150 m	-	0.800 m	1.200 m
Internal Span with Tile Finish	1.500 m	2.400 m	-	1.000 m	1.500 m
Cantilever with Tile Finish	0.220 m	0.300 m	-	-	0.220 m
<b>Walls</b>					
Internal Span	2.700 m	3.000 m	1.500 m	1.800 m	2.700 m
Cantilever	0.400 m	0.600 m			
Normal mass kg/m <sup>2</sup>	8.16	10.26	3.61	4.05	8.16

# Popular flashings

Available in 0.58 mm / 0.8 mm thick commercial quality galvanised Z275 steel, 0.53 mm thick Zinalume® AZ150 or 0.55 mm thick ZincAL® AZ150. Or with a colour option

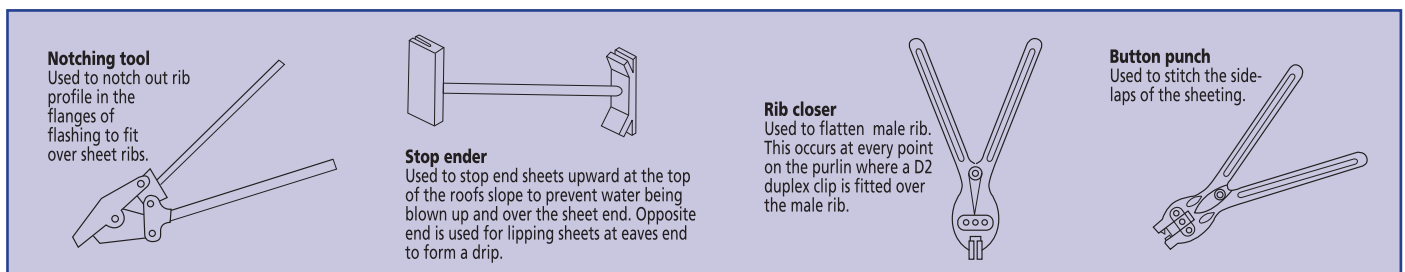
Chromadek® (Galvanised Z200), Clean COLORBOND™ (Zinalume® AZ150) or COLORPLUS® (ZincAL® AZ150) finish to one / two sides.



Please visit our website or contact GRS for standard flashing details

**\* When sheet lengths are over 30m flashings must be fixed to sheets using sliding brackets.**

## Tools



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 Durban  
 East London  
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 Rustenburg

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