

Global Roofing Solutions Brownbuilt™



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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 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 debris.

Quality assurance

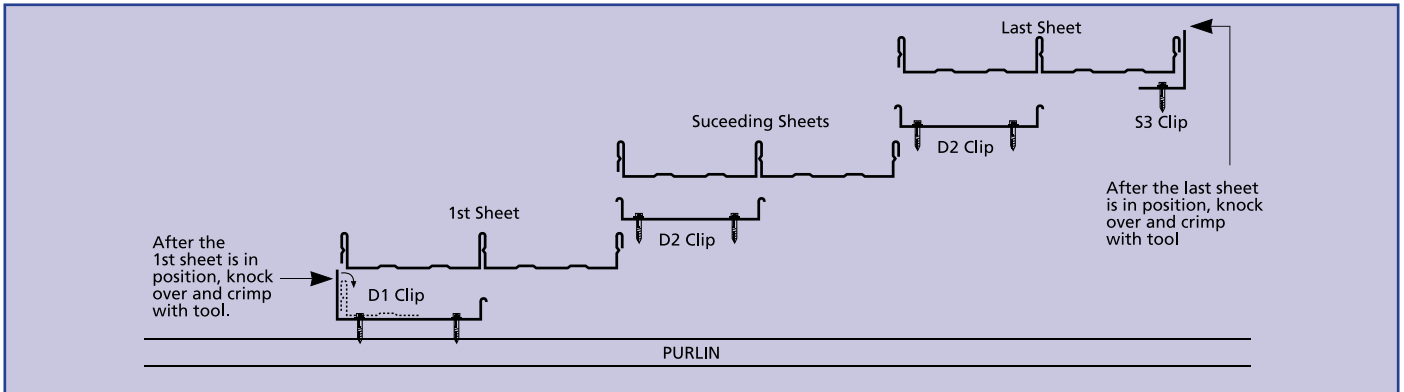
The manufacturer shall be assessed and certified as complying with ISO 9001:2008 Quality Management System.

Translucent Sheeting

The Brownbuilt™ profile is available only in Fibreglass (GRP).

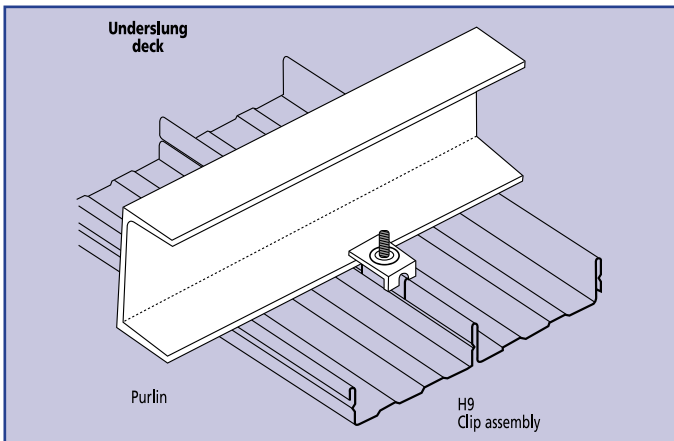


The concealed fixing concept



Brownbuilt™ sheeting as ceiling

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

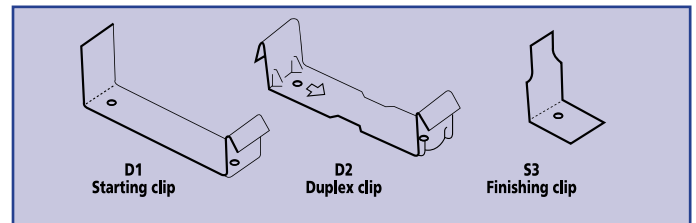


Note

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.

Fasteners

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



Steel up to 3.0mm thick

No. 10-24 x 16 mm long wafer head, self-drilling / self-tapping electroplated Tek screws. No. 10-24 x 22 mm long wafer head, self-drilling / self-tapping electroplated Tek screws over a 50mm thick insulation blanket.

Steel more than 3.0mm thick

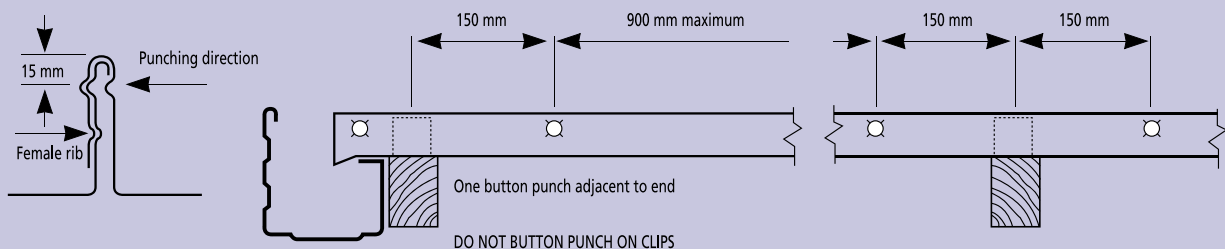
No. 10-24 x 16 mm long wafer head, self-drilling / self-tapping electroplated Tek screws into 4.3 mm pre-drilled holes, using a small amount of graphite grease.

Timber

ZAP No.10x45 mm Waferhead screws type 17.

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.



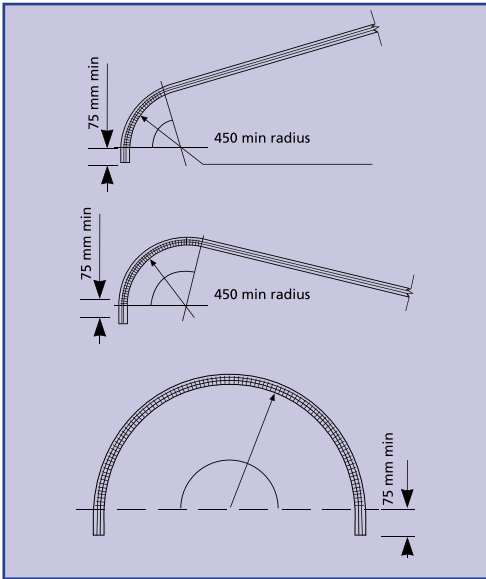
Typical specification

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.

NOTE: When using cranked sheets consideration for road transport has to be taken into account. Refer to Erection/Technical manual for detailed dimensions and fixing instructions.

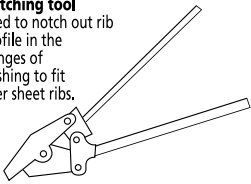
Bullnosing and cranking



Tools

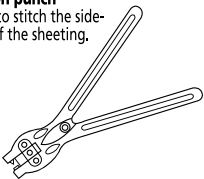
Notching tool

Used to notch out rib profile in the flanges of flashing to fit over sheet ribs.



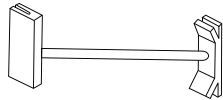
Button punch

Used to stitch the side-laps of the sheeting.



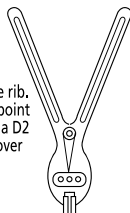
Stop ender

Used to stop end sheets upward at the top of the roofs slope to prevent water being blown up and over the sheet end. Opposite end is used for lipping sheets at eaves end to form a drip.

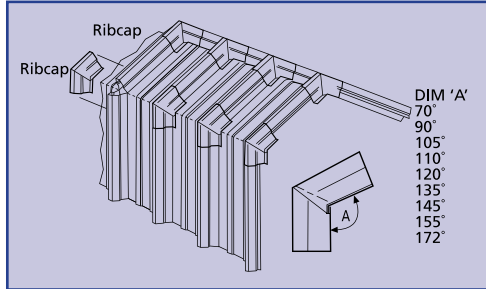


Rib closer

Used to flatten male rib. This occurs at every point on the purlin where a D2 duplex clip is fitted over the male rib.

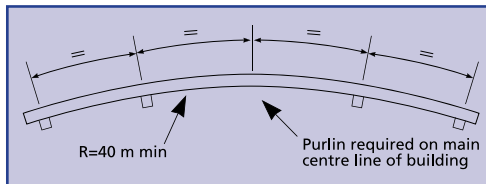


Rib cap detail



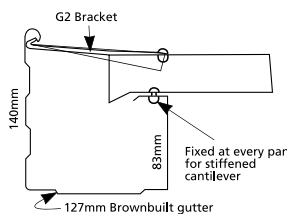
Springing

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



Gutters and fascias

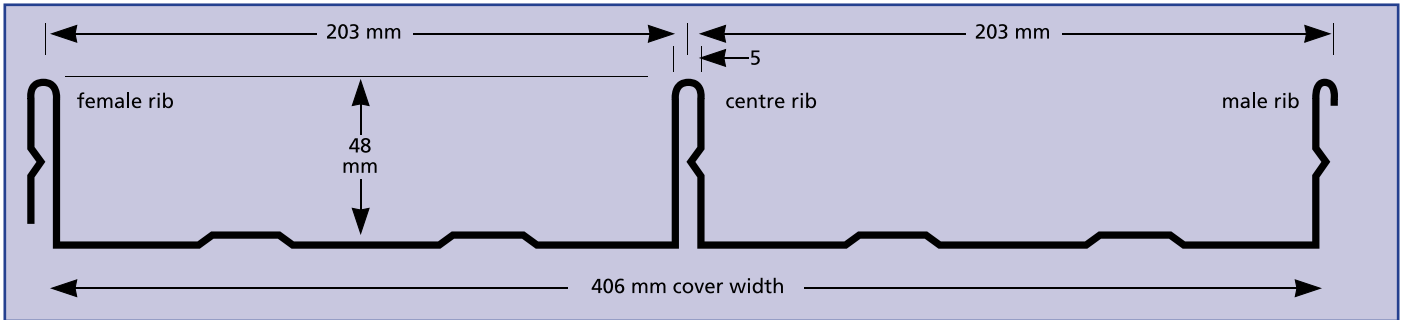
Brownbuilt in addition offers a fascia gutter and a fascia capping, with horizontal stiffening ribs rolled in, giving a clean unbroken surface.



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.



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
ROOFS	1.50 kN/m ²	1.60 kN/m ²
WALLS	0.75 kN/m ²	

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

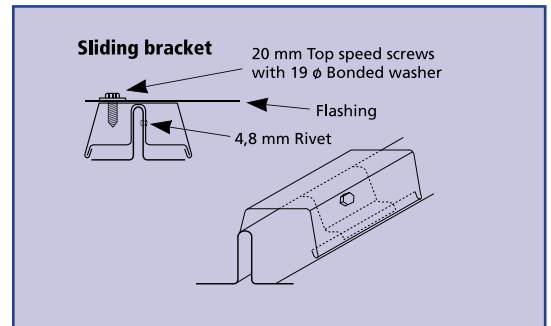
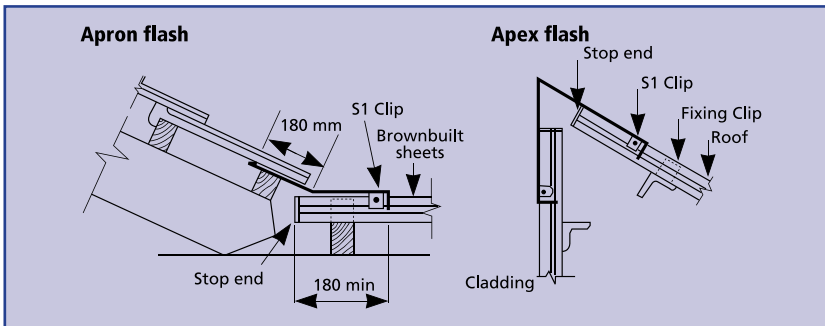
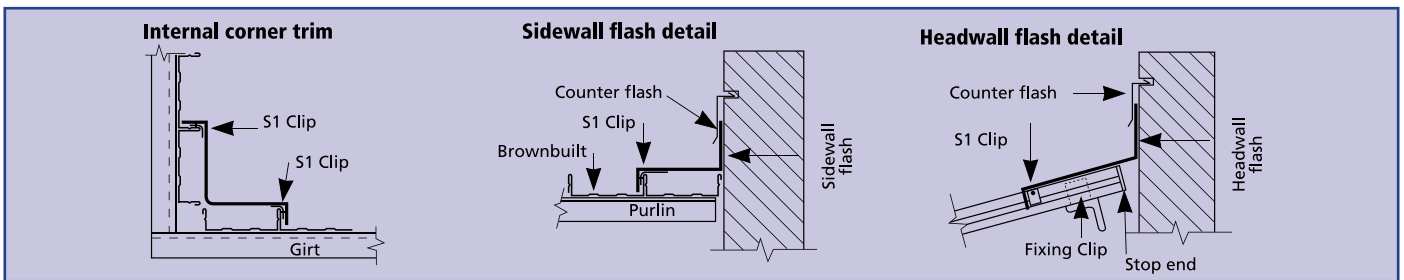
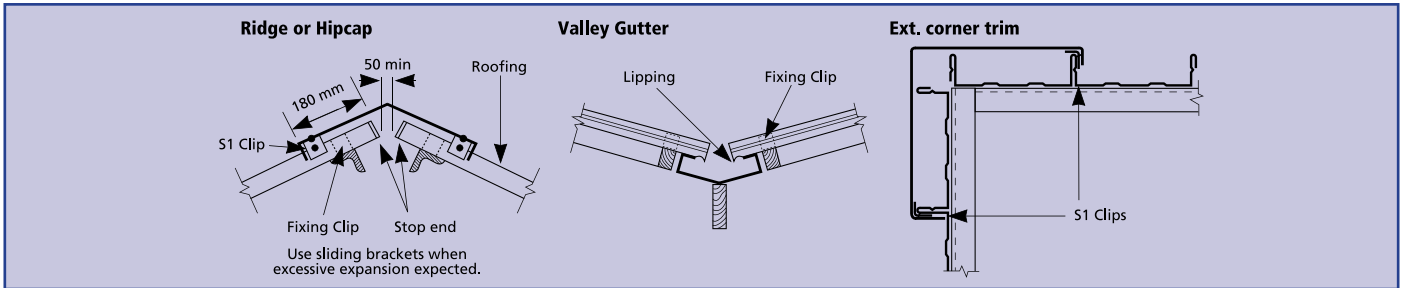
MAXIMUM ALLOWABLE SUPPORT SPACINGS

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
Roofs					
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	0.200 m	0.300 m	0.100 m	0.100 m	0.200 m
Cantilever, gutter attached	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
Walls					
Internal Span	2.700 m	3.000 m	1.500 m	1.800 m	2.700 m
Cantilever	400	600			
Normal mass kg/m ²	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 20m flashings must be fixed to sheets using sliding brackets.**