

TYPICAL ROOF PLANS

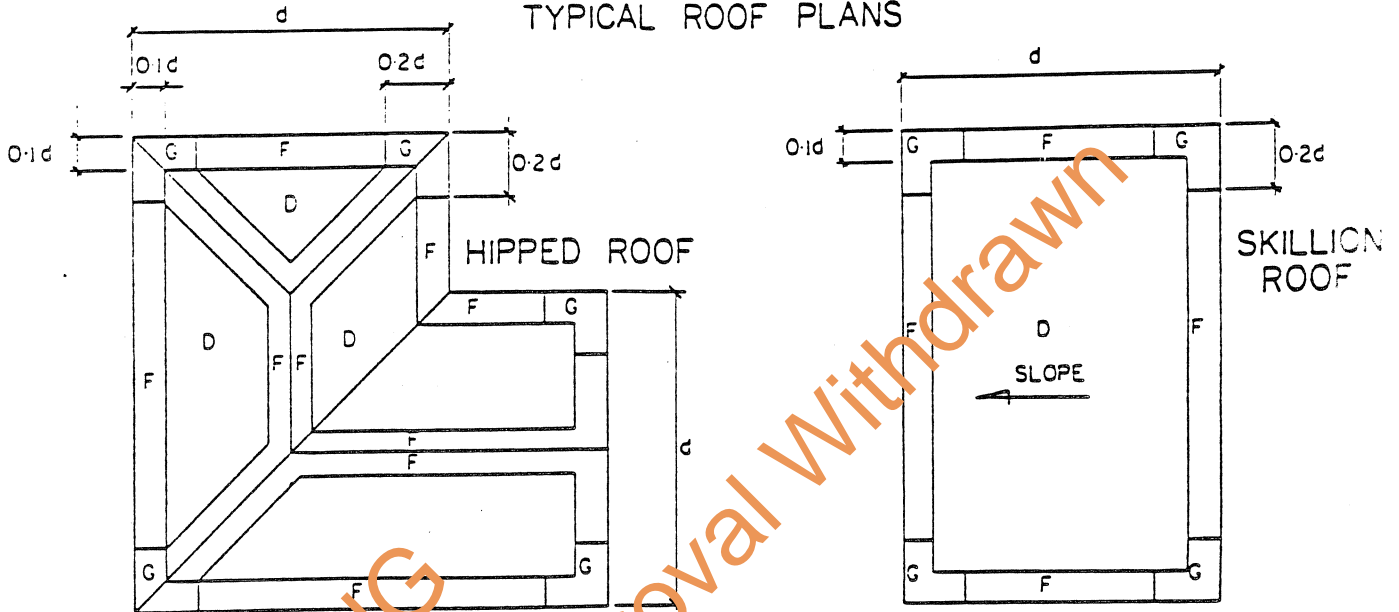


Table 1 - Max Allowable Roof Spans for Buildings of Height up to 5M.

Terrain Category & Multiplier	Roof Area & Design Pressure kPa	Fastener Frequency	Max. Purlin Spacing (m)
			Span 4
Cat. 1	D 2.14	Every Crest	0.88
Mult. 1.02	F 5.37	Every Crest	0.79
	G 6.49	Every Crest	0.72
Cat. 2	D 3.53	Every Crest	0.96
Mult. 0.93	F 4.46	Every Crest	0.86
	G 5.40	Every Crest	0.80
Cat. 2½	D 2.55	Every Crest	1.08
Mult. 0.79	F 3.22	Every Crest	0.99
	G 3.89	Every Crest	0.92

Manuf's Name <u>COMALCO ALUMINIUM LIMITED</u> Address <u>NELSON RD. YENNORA</u> N.S.W. <u>2161</u> Phone <u>681-9333</u>	Fixing of <u>COMALCO SPAN 4</u> Roofing on Buildings of Height up to 5M in the Darwin Area
DESIGN DATA SHEET SH.1 OF 5	
Certified <u>P. E. HARRISON</u> M.I.E. Aust Date <u>14 MARCH 1984</u>	NORTHERN TERRITORY CYCLONIC AREAS Drawing No° <u>M / 107 / 1</u>
Acc'd <u>[Signature]</u> M.I.E.A. / Date <u>20/4/84</u>	

TYPICAL ROOF PLANS

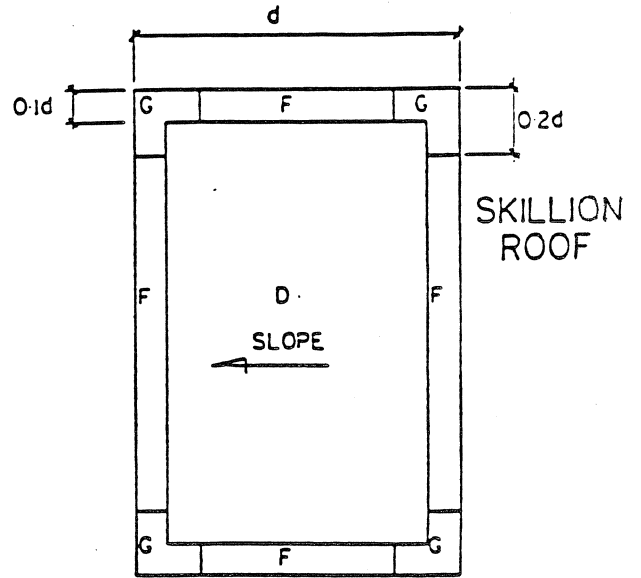
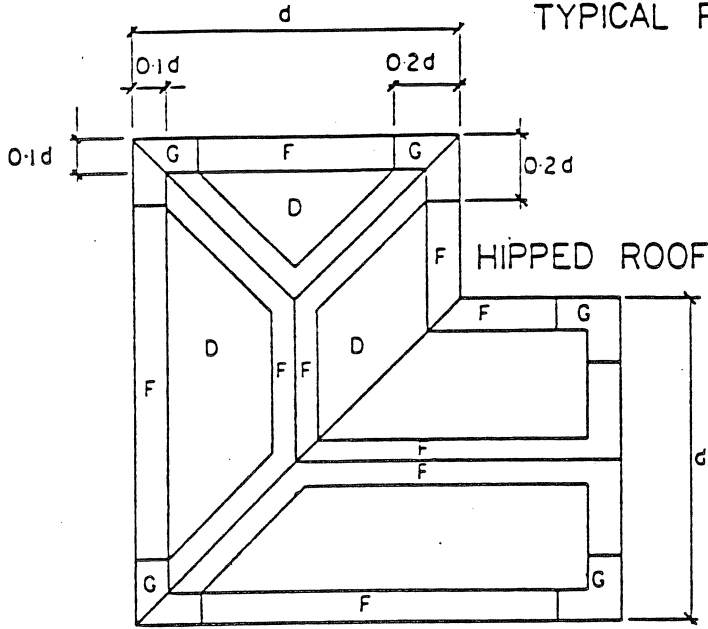


Table 2 - Max. Allowable Roof Spans for Buildings of Heights over 5m to 10m.

Terrain Category & Multiplier	Roof Area & Design Pressure kPa	Fastener Frequency	Max. Purlin Spacing (m)
			Span 4
Cat. 1 Mult. 1.09	D 4.85	Every Crest	0.83
	F 6.13	Every Crest	0.74
	G 7.41	Every Crest	0.67
Cat. 2 Mutl. 1.100	D 4.08	Every Crest	0.90
	F 5.16	Every Crest	0.81
	G 6.24	Every Crest	0.73
Cat. 2½ Mult. 0.85	D 2.95	Every Crest	1.03
	F 3.75	Every Crest	0.93
	G 4.51	Every Crest	0.86

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DESIGN DATA SHEET SH. 2 OF 5	
Certified <u>P. E. Harrison</u> MIE. Aust P. E. HARRISON Date <u>14 MARCH 1984</u>	NORTHERN TERRITORY CYCLONIC AREAS Drawing No° <u>M/107/1</u> Acc'd <u>[Signature]</u> MIE. Aust Date <u>[Signature]</u>

SETTING OUT

The framing for roof sheeting and its supporting structure must be designed to withstand the anticipated cyclonic wind forces. All framing must be well anchored by using tie rods, straps, bolts or spikes to prevent dislodgement in extreme cyclonic conditions.

The direction of sheet laying is not critical as cyclonic winds may reverse their direction during the course of the storm, however the usual practice is to lay sheeting with the overlapping rib facing away from the direction of the prevailing wind.

Begin fixing at the barge line at the end of the roof away from the prevailing wind, laying the first sheet exactly at right angles to the eaves line. The wide troughs between ribs should be turned up level with tops of ribs at the ridge. The ends of sheets at the eaves should be lipped down slightly to provide a drip edge.

For these operations use forming tool BP1301. Sheets should be fastened as they are laid and a scalloped (Profiled) flashing used to check the sheet profile so as to avoid spreading of the sheet during laying.

FIXING METHOD

For fixing of the sheet into timber purlins or battens use woodscrew BP9050 14 gauge x 50mm type 17 stainless steel Hex head screw with neoprene washer, BP9051 aluminium formed washer and BP9061 neoprene flat washer. For fixing into steel purlins use BP9060 14 gauge x 40mm Taptite stainless steel self-tapping screw with neoprene washer, BP9051 aluminium formed washer and BP9061 neoprene flat washer.

Drill Size: Under 5mm, steel - 5.2mm diameter
Over 5mm to 10mm steel - 5.8mm diameter

Note: Where sheet lengths are in excess of 6 metres sheets must be fixed with expansion type fittings to all attachment points beyond the 6 metre lengths - refer to Comalco Product Brochure.

Avoid overdriving screws as this will cause a dimple in the rib crest and form a potential leak area.

When fixing to steel purlins the driving speed for self-tapping screws must not exceed 300 R.P.M.

Stitch sidelaps between purlins with 4mm aluminium sealed blind rivets.

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Certified <u>P. E. Harrison</u> M.I.E. Aust <u>P. E. HARRISON</u> Date <u>14 MARCH 1984</u>	DESIGN DATA SHEET NORTHERN TERRITORY CYCLONIC AREAS Acc'd <u>[Signature]</u> Date <u>24/4/84</u>	SH.3 OF 5 Drawing No. <u>M / 107 / 1</u>

CUTTING AND BENDING

When necessary cutting of the sheet lengthwise can be achieved by scoring with a sharp pointed tool (laminated knife) and then bending the score mark over a straight edge to cause fracture along the score mark.

To cut across the sheet a fine tooth hack saw should be used or a power saw fitted with a metal cutting saw blade.

Any bending of the sheet parallel to the ribs should be done over a large radius to avoid cracking the sheet.

FOOT TRAFFIC

Between battens or purlins walk only in the pans of the sheet as ribs may be damaged if walked on. Where the sheet is fastened to battens or purlins both pans and ribs may be walked on along the fixing line.

FLASHING METHOD

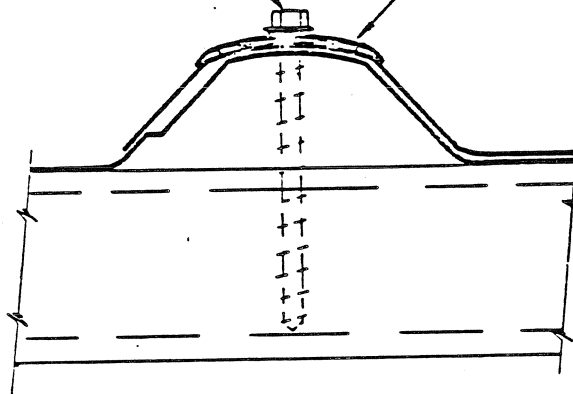
Comalco provides a range of standard flashings and accessories which should be securely fixed to the sheeting. For details of flashings and their installation refer to the Comalco Product Brochure.

N.B. The attachment centres of flashings indicated in the Comalco Product Brochure are for normal non cyclonic areas. For cyclonic areas the attachment centres should be reduced to cope with the higher design wind forces.

Maximum recommended centres 200mm.

For steel Purlins
use BP9060
For Timber Purlins
use BP9050

Washer Set
Aluminium BP9051
Neoprene BP9061



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	DESIGN DATA SHEET SH.4 OF 5	
Certified <u>P.E. Harrison</u> M.I.E. Aust P.E. HARRISON Date <u>14 MARCH 1984</u>	NORTHERN TERRITORY CYCLONIC AREAS	Drawing No. <u>M / 107 / 1</u>
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DIMENSIONS

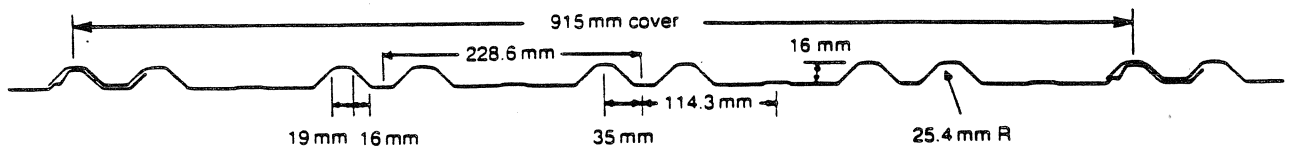
Overall width - 1003mm
 Effective cover width - 915mm
 Lengths up to 11.5m - Longer lengths subject to transport arrangements (17.5m max.)

FINISH

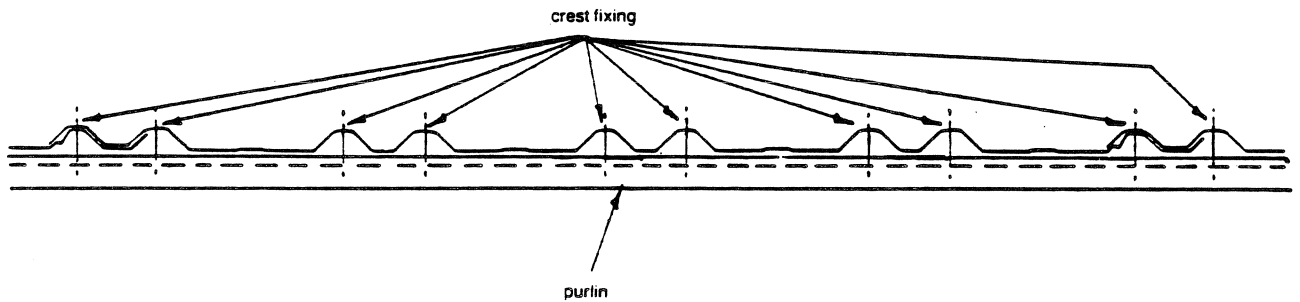
Stucco embossed
 Pre-painted

PROPERTIES

Class	Nominal Gauge mm	Mass per sq. m. of cover kg	Mass/lin metre kg	Properties per 100mm width	
				Modulus mm ³	Moment of inertia mm ⁴
Span 4	0.62	2.05	1.875	64.4	918



CREST FIXING - EVERY CREST



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	DESIGN DATA SHEET SH.5 OF 5	
Certified <u>P. E. Harrison</u> M.I.E. Aust P. E. HARRISON Date <u>14th MARCH 1984</u>	NORTHERN TERRITORY CYCLONIC AREAS	Drawing No. <u>M / 107 / 1</u>
	Date <u>24/3/84</u> M.I.E. Aust.	