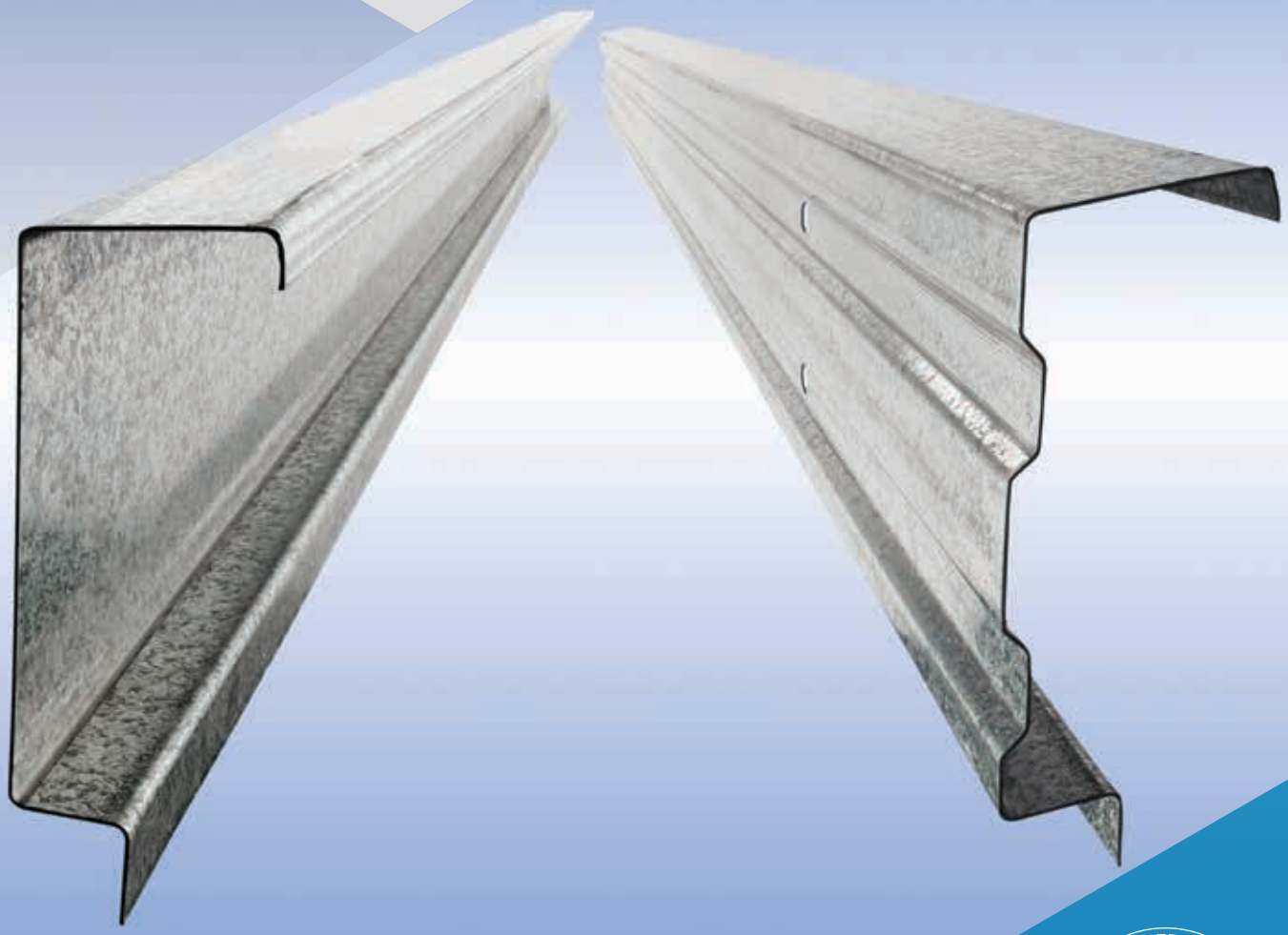
FASCIA PURLIN

DESIGN AND INSTALLATION GUIDE



TRUSTED BY A NATION
EST 1857
FOR OVER 150 YEARS

LYSAGHT® FASCIA PURLIN

LYSAGHT® Fascia Purlins are available with fluted or smooth face in 1000mm to 15000mm lengths. Roll-formed from high tensile Australian-made steel, they are galvanised for corrosion protection. Fluted face accommodates bolt heads to provide flat surface for mounting gutter. Long length one piece purlins ideal for portal frame buildings.

DESIGN ADVANTAGES

LYSAGHT® Fascia Purlins incorporate many design features which make it an easy-to-use, economical eave purlin and fascia combined. Wider portal frame spacings have created a need for long length, one piece fascia purlins.

Roll-formed from high-tensile Australian-made steel, galvanised for corrosion protection, these fascia purlins can be supplied in any required length from 1,000mm to 15,000mm. The continuous lengths eliminate costly, time-consuming splice plates and the resultant bolts which can interfere with the roof sheeting.

The LYSAGHT® Fascia Purlin incorporates a number of useful features. High tensile steel means it is lighter and stronger than mild steel purlins. The size and thickness were chosen to complement the LYSAGHT® Zeds, Cees and SupaPurlin's range.

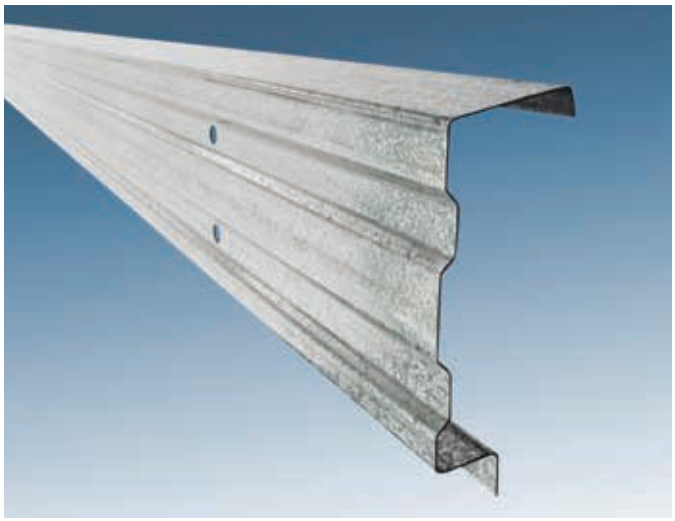
The FP23019's fluted web strengthens the section and provides a flush front face with the standard purlin bolts recessed in the flutes. There are no special fascia bolts and no obstructions when mounting gutters.

The top flange can be rolled to any angle from 84° to 120° for roof pitches from -6° to 30°.

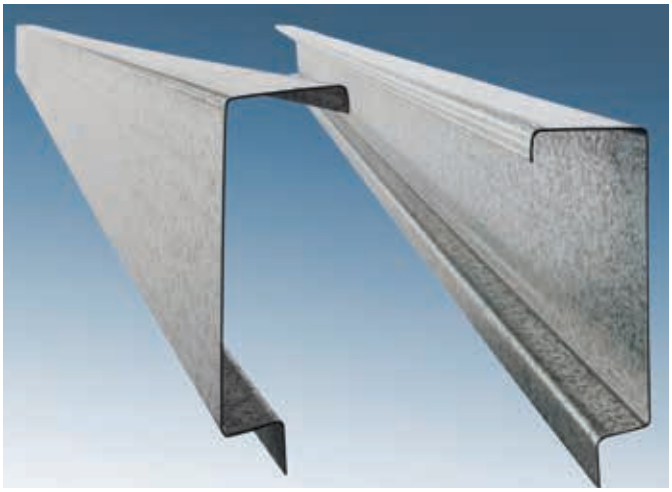
The bottom flange is shaped to prevent the entry of rainwater and provide a simple support for the fixing of wall sheeting.

MATERIAL

LYSAGHT® Fascia Purlins are roll-formed from hot-dipped, zinc-coated, high strength GALVASPAN® from BlueScope Steel. The steel strip conforms to AS 1397:2011 in the following grade: 1.9mm BMT, G450, Z350 (G450 = 450 MPa minimum yield stress, Z350 = 350g/m^2 minimum coating mass).



FP23019

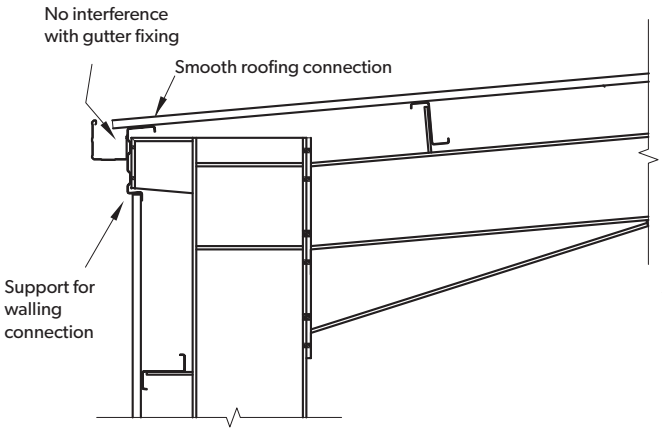


FP23019S

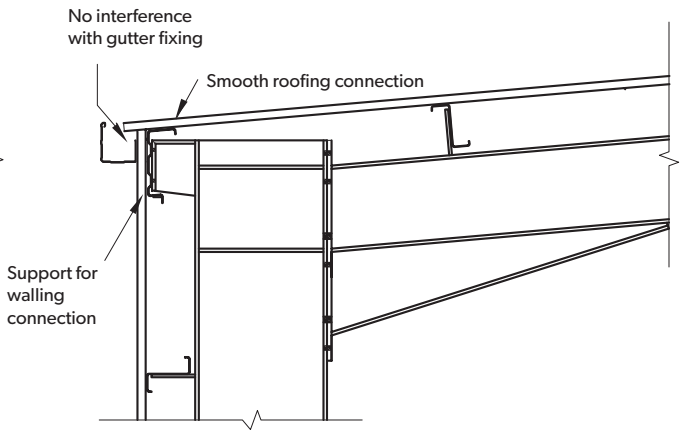
Figure 1

Application of LYSAGHT® Fascia Purlin in steel portal frame buildings.

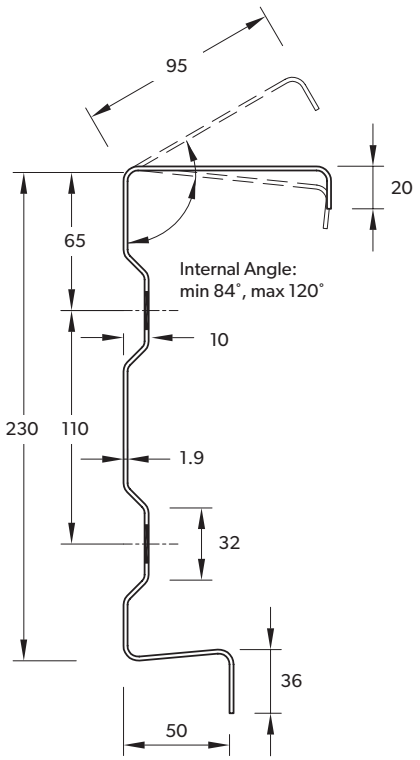
Method 1: Run cladding to bottom of the purlin.



Method 2: Run cladding to face of the purlin.



DIMENSIONS



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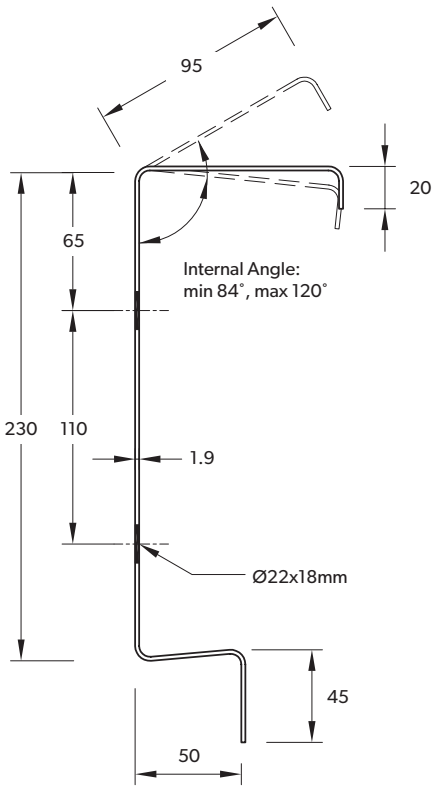

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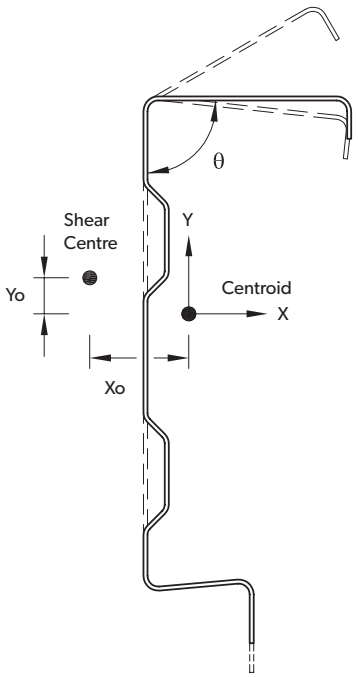

All dimensions are nominal.

FASCIA PURLIN SECTION PROPERTIES

Section Name	Top Flange Angle	Yield Stress	Section Area	Gross 2nd Moment of Area		Gross Section Modulus		Radius of Gyration		Shear Centre		Torsion Constant	Warping Constant
	0	fy	A	Ix	Iy	Zx_1 *	Zx_2 *	rx	ry	xo	yo	J	Iw
	deg	mPa	mm^2	$x10^6\ mm^4$	$x10^6\ mm^4$	$x10^3 mm^3$	$x10^3 mm^3$	mm	mm	mm	mm	mm^4	$x10^9\ mm^6$
FP23019	84	450	807.5	6.37	0.64	58.2	42.4	88.8	28.3	48.0	59.2	941	3.65
	90	450	807.5	6.59	0.65	60.8	43.5	90.3	28.3	48.1	55.8	944	3.58
	120	450	807.5	7.78	0.51	53.7	49.5	98.1	25.0	42.5	31.3	958	3.01
FP23019S	84	450	807.5	6.93	0.71	60.9	43.9	92.6	29.7	54.1	57.5	954	4.10
	90	450	807.5	7.15	0.71	63.5	45.0	94.1	29.7	54.1	53.5	957	3.99
	120	450	807.5	8.39	0.57	56.3	51.1	101.9	26.5	48.0	27.1	971	3.21

Section Name	Top Flange Angle	Local Buckling Stresses MPa (fol)		Distortional Buckling Stresses MPa (fod)		Lateral Buckling Stresses + MPa (fo)						Lateral Buckling Stresses + MPa (fo)					
	0	+	-	+	-	Effective Length (m)						Effective Length (m)					
	deg					<2	2	3	4	5	6	<2	2	3	4	5	6
FP23019	84	527	548	364	656	450	450	450	294	192	136	450	241	118	71	49	36
	90	516	549	352	655	450	450	450	270	177	125	450	241	118	71	49	36
	120	484	556	319	713	342	407	229	137	91	66	450	244	120	72	49	37
FP23019S	84	454	379	348	1040	450	450	450	312	204	144	450	253	128	77	53	39
	90	461	379	336	1039	450	450	450	285	187	133	450	252	129	78	53	39
	120	469	383	301	1037	450	397	233	142	95	69	450	256	132	80	54	40

DESIGN PRINCIPLES

The design of these members should be in accordance with AS 4600:2005 Cold-Formed Steel Structures, Section 7 Direct Strength Method.

Design steps using charts and sections properties

1. To determine the member moment capacity, refer to clause 7.2.2 of AS 4600:2005
2. To determine the shear capacity, refer to clause 3.3.4 of AS 4600:2005
3. To determine the combined bending and shear capacity, refer to clause 3.3.5 of AS 4600:2005
4. To determine connection capacity, refer to clause 5.3 of AS 4600:2005.

SUPPLEMENTARY PRODUCTS

LYSAGHT SupaPurlin® provide a range of top performing purlins and girls for your construction needs.

HOOK-LOK® bridging delivers strength and performance when you need it most.

Lysaght offers a range of purlin accessories including, brackets, bolts and other necessary requirements.

Contact your local Lysaght service centre for more details.

Fascia purlin shown mounted on a building.

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