



## FORM & FUNCTION

Stratco Snaplock Hiland Tray<sup>™</sup> is a modern architectural roofing and walling profile with concealed clips providing a clean finish with smooth, uncluttered lines.

The Snaplock profile spans over timber or steel supports.

TABLE 1.0 - SNAPLOCK PROFILE COVERAGE OPTIONS

Rib Height (mm)	Sheet Cover (mm)	BMT (mm)
25	225	0.55
25	325	0.55
38	185	0.55
38	285	0.55
38	340	0.60



COVERAGE (REFER TABLE 1.0)

25mm SNAPLOCK HILAND TRAY



COVERAGE (REFER TABLE 1.0)

38mm SNAPLOCK HILAND TRAY

# STRATCO HILAND TRAY<sup>™</sup>

DESIGN GUIDE: STRATCO SNAPLOCK HILAND TRAY<sup>™</sup>

# STRATCO HILAND TRAY™

## DESIGN CONSIDERATIONS

The minimum recommended roof pitch for Stratco Snaplock Hiland Tray is 2°. Care needs to be taken to ensure the minimum roof pitch is maintained to avoid ponding of rainwater.

Snaplock Hiland Tray is available in a number of sheet covers and two available rib heights. Spans, fastener allocation and roof runs specified in this document are suitable for profiles listed in Table 1.0.

Roofing is designed to withstand actions incidental to maintenance. Hiland Tray roofing is to be walked-on as little as possible.

Spans and fastener allocation have been specified for loading imposed from non-cyclonic domestic wind classifications N1, N2 & N3.

Stratco does not accept liability for any loss or damage suffered as a result of any errors in the interpretation of these span tables.

## MATERIAL SPECIFICATIONS

TABLE 2.0

Material Properties	0.55mm BMT				0.60mm BMT	
	Girth 300mm		Girth 400mm		Girth 455mm	
	ZnAl	Colour	ZnAl	Colour	ZnAl	Colour
Min. 'AZ' Coating Mass (g/m <sup>2</sup> )	150		150		150	
Mass (kg/linear metre)	1.35	1.36	1.80	1.82	2.22	2.25
Min. Yield Strength (MPa)	300		300		300	
Width Coverage (mm)	185/225	185/225	285/325	285/325	340	340
Sheet Tolerance (mm)	±7 ±4		±7 ±4		±7 ±4	
Min. Roof Pitch	2°		2°		2°	

## SPANS

Pressures and spans are based on an eaves height not exceeding 6.0m, a roof pitch no greater than 35° and a total roof height of maximum 8.5m.

Roofing calculations are based on  $C_{pe} = -0.9$  and  $C_{pi} = 0.2$ , walling is based on  $C_{p,e} = -0.65$  and  $C_{p,i} = 0.2$ . A local pressure factor,  $K_l = 2.0$  has been used for end spans which exist within 1200mm of all roofing and walling edges.

A local pressure factor,  $K_l = 1.0$  has been used for internal spans which exist outside of the edge zones. Be aware if an internal span occurs within 1200mm of any edge, the maximum allowable span specified for end spans will apply.

Additional engineering advice can be obtained from Stratco if any design parameters vary from those indicated above.

Stratco Snaplock Hiland Tray is limited to lengths of 15m.

Light gauge steel cladding with wide pans may exhibit oil canning which can affect the aesthetics of the building design. Oil canning will vary depending on the time of day and angle of viewing and will likely be more noticeable in darker colours. Oil canning will also be more prevalent in wider pans and longer sheet runs. Building designers and homeowners should be aware of this and take this into consideration.

TABLE 3.0 - WIND CAPACITIES (kpa)

Span Type	Limit State	SPAN (mm)				
		600	900	1200	1500	1800
Continuous	Serviceability	1.24	1.15	1.06	0.97	0.88
	Strength	4.20	2.64	1.58	1.02	0.95

The values in the above tables are for use with steel supports of minimum thickness 0.55mm BMT, G550, or timber supports with screws as per fastener selection table. Continuous spans represent spans which are continuous over at least three supports.

## WATER CARRYING CAPACITY

TABLE 4.0 - MAXIMUM ROOF RUN FOR DRAINAGE (m)

Roof Pitch	PEAK RAINFALL INTENSITY (mm)					
	150	200	250	300	350	400
2°	38	29	23	19	16	14
5°	54	51	33	27	23	20
10°	74	55	44	37	32	28
15°	89	67	53	44	38	33

The peak rainfall intensities shown represent a 100 year average recurrence interval (ARI) for a five minute rainfall duration.

If roof penetrations exist, the actual roof run will typically be larger than the distance from ridge to eaves due to penetration/s interfering with the runoff. Contact Stratco if further advice is required.

## COMPLIANCE

Testing has been performed in accordance with AS1562.1-1992 and AS4040.0, 1 & 2-1992. Roofing and walling allowable spans and fastener allocation have been determined based on relevant pressures determined in accordance with AS4055, Wind Loads for Housing.

TABLE 5.0 - SPANS (mm)

Application	Span Type	WIND CLASSIFICATION		
		N1	N2	N3
Roofing	End	1200	1100	850
	Internal	1500	1500	1200
	Overhang	50	50	50
Walling	End	1600	1300	1050
	Internal	1800	1800	1400
	Overhang	100	100	100

Spans are determined by wind speeds for non-cyclonic areas.

## FIXING RECOMMENDATIONS

It is recommended pans are turned up at the ridge and down into gutters, particularly at low pitches. Roofing should have a 50mm overhang into gutters and be laid with the overlapping rib facing away from the prevailing wind.

At each supporting member Snaplock clips are secured with two fasteners per clip. Refer Table 6.0 for fastener specifications.

Runs of cladding will require Stratco Hiland Tray 'Starter' pieces to provide an underlapping detail for the initial lap.

To lap sheets, press down on the lap over a support until the sheets fully engage, continue working along the length of the sheet until the full length is secured.

Hiland Tray sheeting is not suitable for end lapping.

When fixing over insulation a roof spacer system is recommended. If not used, the screw length may need to be increased with a minimum of three screw threads protruding past steel supports or minimum 23mm embedment into timber supports required.

Oil canning of Snaplock Hiland Tray can be reduced by adding a product such as Proctor GEO HC9 laid over ProctorWrap Vapour Permeable Foil. This will help to allow any condensation to pass through and dry out.

**TABLE 6.0 - FASTENER SELECTION**

SUPPORT	FASTENER
Min. 0.55mm BMT G550 steel batten	10g-15x16mm needle point flat head screw
Min. 1.0mm BMT G300 steel support	10g-16x16 wafer head self-drilling screw
Timber (minimum F7 softwood)	10g-12x25 type 17 wafer head screw

*Snaplock clips shall be secured via two screws per clip per support with all screws having a minimum Class 3 coating.*

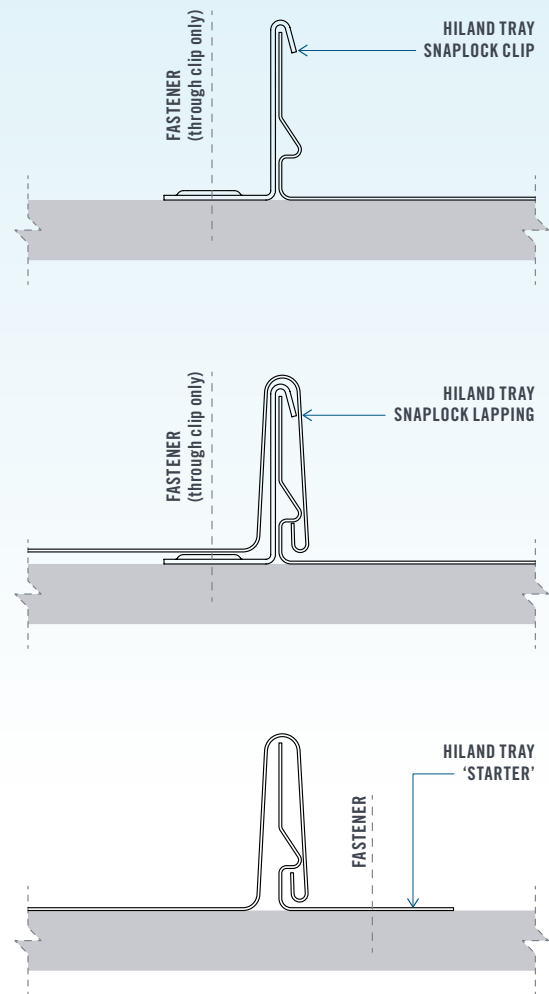


FIGURE 1.0: SNAPLOCK HILAND TRAY FIXING DETAILS

## WALKING ON HILAND TRAY

Stratco recommend any foot traffic is kept to supports for safety and to avoid damage. Do not walk on sheet overhangs. Do not walk on Hiland Tray roofing between battens. When walking on roofs wear flat, rubber soled shoes and walk flat footed spreading your weight evenly.

## MAINTENANCE REQUIREMENTS

The performance of Hiland Tray roofing and walling over time depends on its correct application and maintenance. Maintenance should be performed as often as is required to remove any dirt, salt and pollutants.

Where Hiland Tray cladding is used in severely corrosive environments, cleaning should be performed more often. It is important that screws have the same life expectancy as the Hiland Tray cladding you have specified. Packs of Hiland sheeting should always be kept dry and stored above ground level on site. If the sheets have become wet, they should be separated, wiped and placed in the open to dry.

Refer to the Stratco 'Selection, Use and Maintenance' brochure for more detailed information about the correct use and maintenance of this product.

### HILAND TRAY FLASHINGS

Flashing details are indicative. Flashings must be detailed & dimensioned by the installer for each specific job.

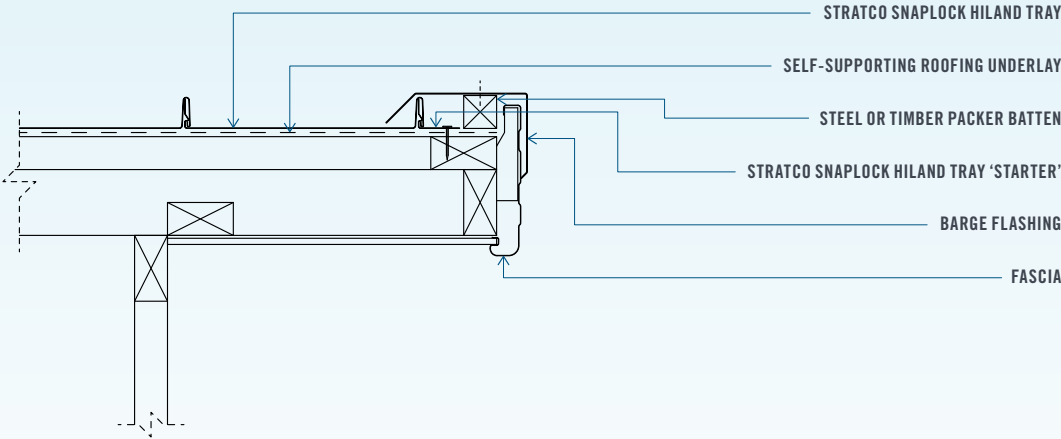


FIGURE 2.0: BARGE FLASHING DETAIL (PARALLEL TO HILAND TRAY)

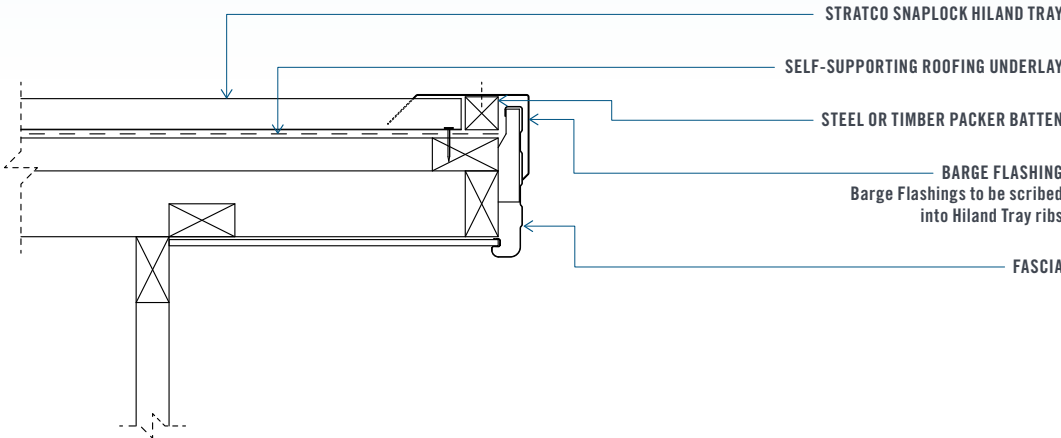


FIGURE 3.0: BARGE FLASHING DETAIL (PERPENDICULAR TO HILAND TRAY)

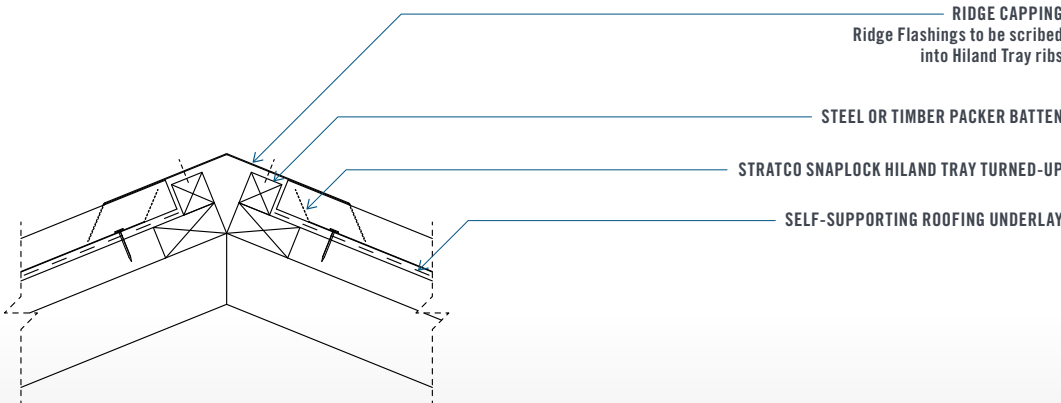


FIGURE 4.0: RIDGE CAPPING DETAIL

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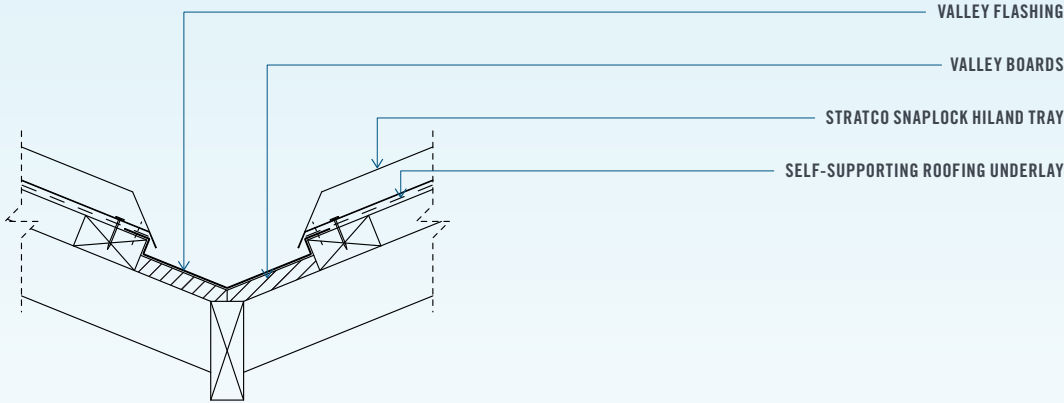


FIGURE 5.0: VALLEY FLASHING DETAIL

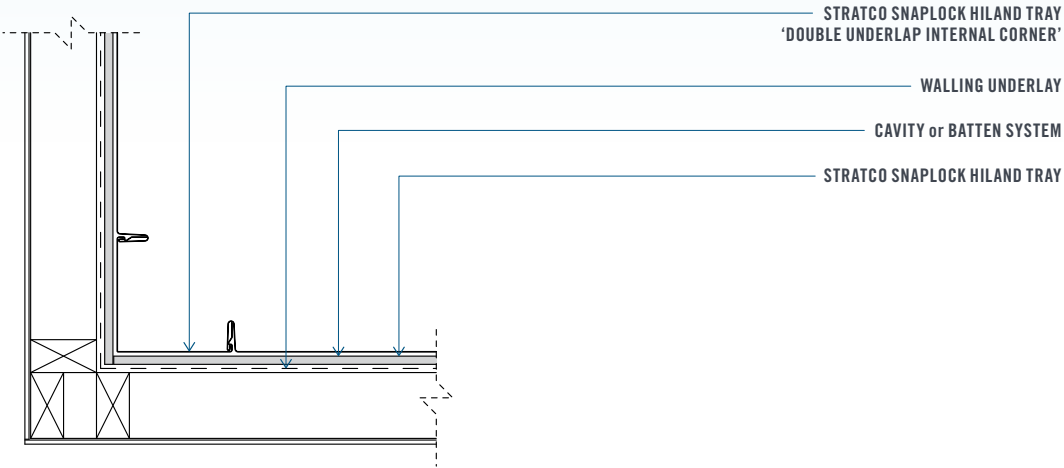


FIGURE 6.0: INTERNAL CORNER WALL FLASHING DETAIL (PLAN VIEW)

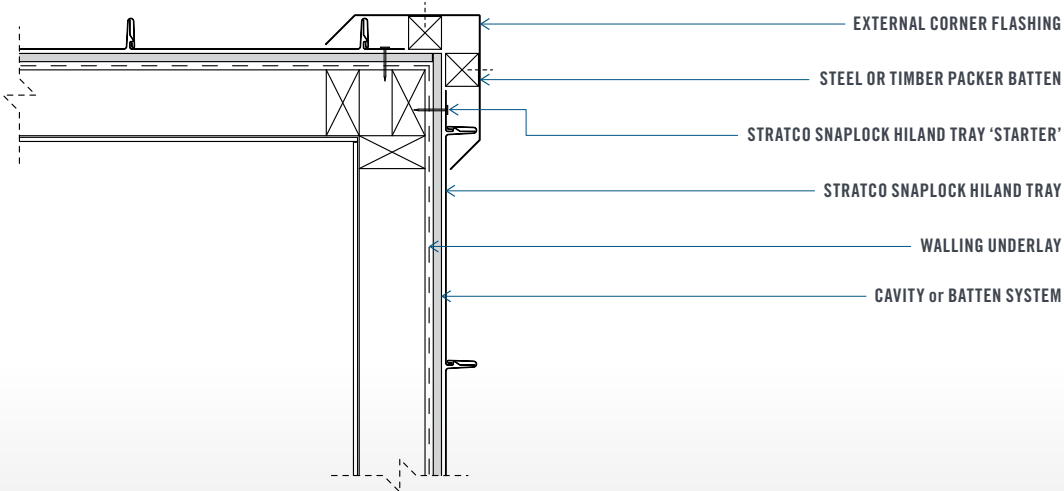


FIGURE 7.0: EXTERNAL CORNER WALL FLASHING DETAIL (PLAN VIEW)

## HILAND TRAY FLASHINGS

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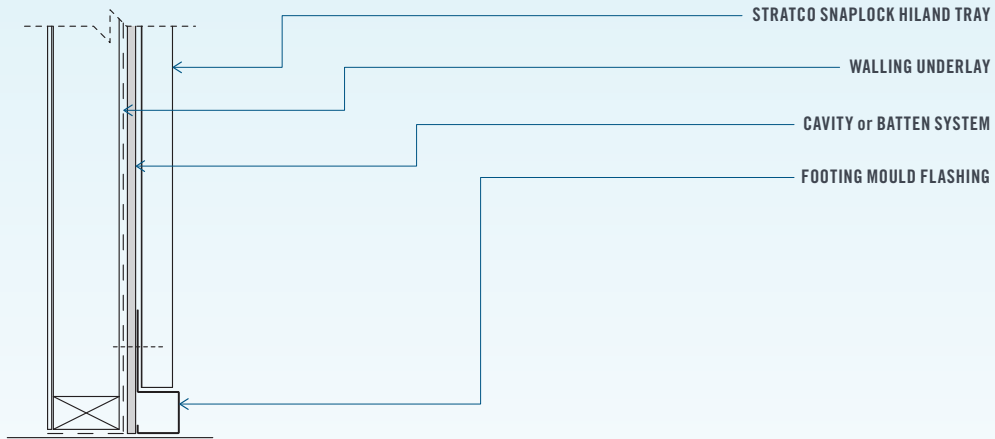


FIGURE 8.0: FOOTING MOULD FLASHING DETAIL

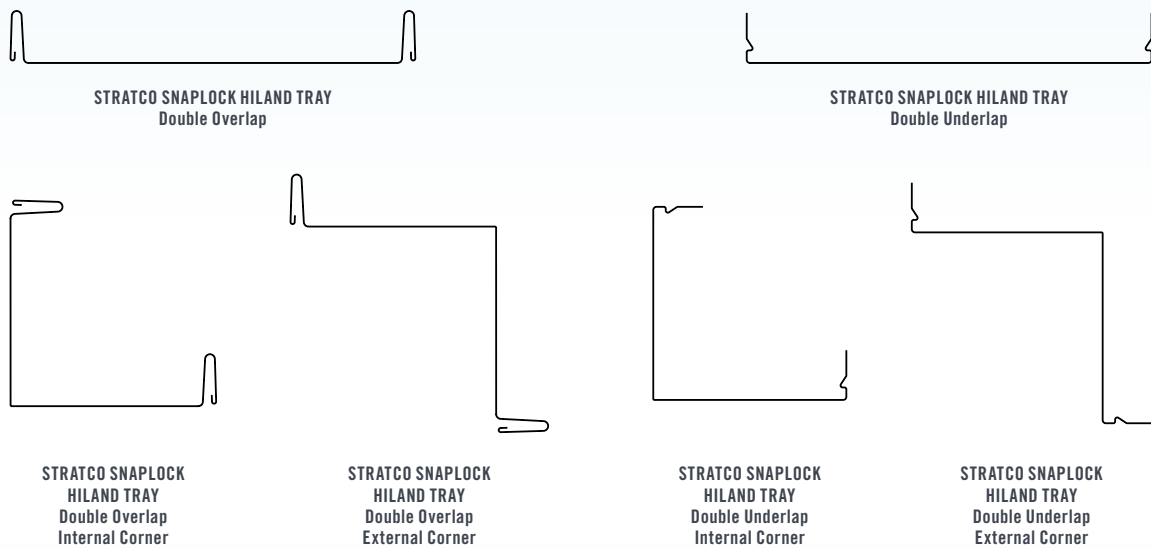


FIGURE 9.0: CUSTOM ROLLED FLASHING PROFILES



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How To.

