

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL – National Construction Code (NCC) Volume 2

This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

PROFILE:

762mm wide 0.42 & 0.48 BMT Apex Corrugated profile.

FIXINGS:

Screw: 6.2mm-13x55mm Bremick Vortex Cyclone (minimum).

Washer: 1.0mm-40x36mm Region D Plate with 2.0mm-30mm diameter EPDM seal (minimum).

Spacing: Per every second crest (minimum).

OTHER DETAILS:

Grade: G550 steel.

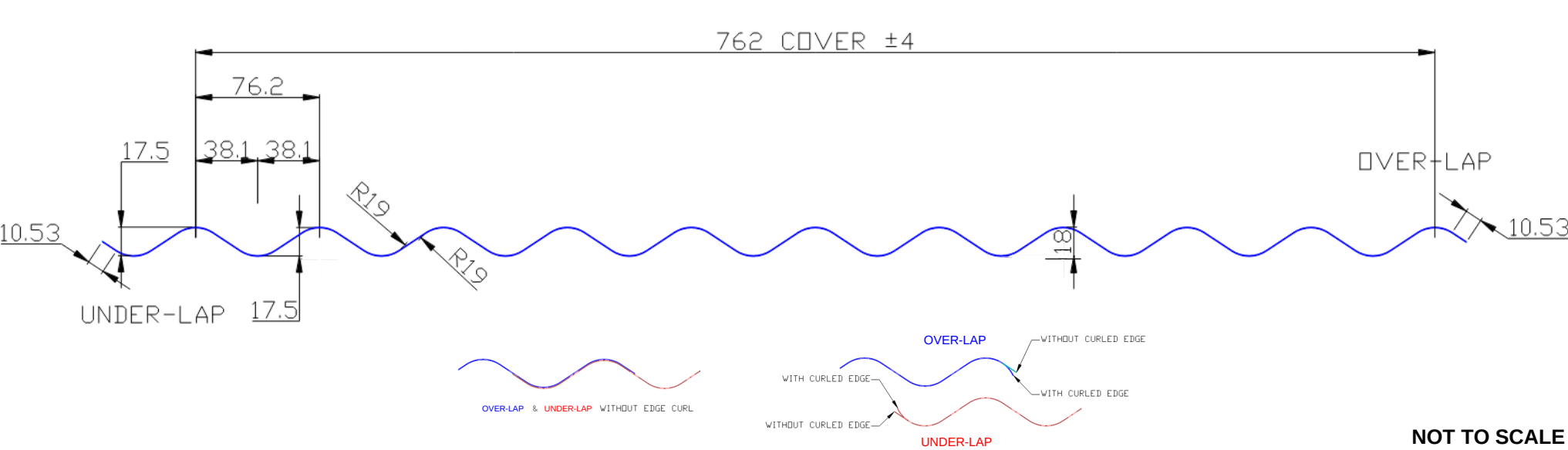
Coating: Galvanised & colorbond surface treatment.

Support: 0.75 BMT G550 40mm steel top hat batten (minimum).

Lapping: Single crest and trough over-lap and under-lap with fixtures and stitching.

Stitching: For spans of 1200mm or greater, single 10-16x16mm Bremick self-drilling metal screw with 3mm neoprene washer at lap midspan (minimum).

Treatment: All fixing assemblies are to have Class 4 surface treatment (minimum).



0.42 BMT STRENGTH LIMIT STATE CAPACITY

Three (or more) Equal Spans						
0.42 BMT	Span (mm)	300	450	600	750	900
	ULS (kPa)	8.26	7.12	6.05	5.04	4.09

0.42 BMT SPAN TABLES - THREE (OR MORE) EQUAL SPANS

Outward Load ($C_{pe} = +0.70$, $k_{cl} = 1.00$)									
0.42 BMT		k_{ls}	1.00		1.50		2.00		3.00
		C_{pe}	-0.90	-1.30	-0.90	-1.30	-0.90	-1.30	-0.90
TC	H (m)		Span (mm)						
1	≤ 5		750	600	600	450	450		
	≤ 10		750	600	600	450	300		
	≤ 25		600	450	300				
2	≤ 5		900	750	750	600	600	450	300
	≤ 10		750	600	600	450	450		
	≤ 25		750	450	450		300		
2.5	≤ 5		900	900	900	600	750	450	450
	≤ 10		900	750	750	600	600	300	300
	≤ 25		750	600	600	300	450		
3	≤ 5		900	900	900	750	750	600	450
	≤ 10		900	900	900	750	750	600	450
	≤ 25		900	750	750	450	450	300	
4	≤ 5		1200	900	900	900	900	750	750
	≤ 10		1200	900	900	900	750	750	450
	≤ 25		900	900	900	750	900	600	300

Inward Load ($C_{pi} = -0.65$, $k_{cl} = 1.00$)		
0.42 BMT	k_{ls}	1.00
	C_{pi}	+0.20
TC	H (m)	Span (mm)
1	≤ 5	1200
	≤ 10	900
	≤ 25	900
2	≤ 5	1200
	≤ 10	1200
	≤ 25	900
2.5	≤ 5	1200
	≤ 10	1200
	≤ 25	1200
3	≤ 5	1200
	≤ 10	1200
	≤ 25	1200
4	≤ 5	1200
	≤ 10	1200
	≤ 25	1200

0.48 BMT STRENGTH LIMIT STATE CAPACITY

Three (or more) Equal Spans						
0.48 BMT	Span (mm)	300	450	600	750	900
	ULS (kPa)	10.33	9.06	7.87	6.77	5.76

0.48 BMT SPAN TABLES - THREE (OR MORE) EQUAL SPANS

Outward Load ($C_{pe} = +0.70$, $k_{cl} = 1.00$)									
0.48 BMT		k_{ls}	1.00		1.50		2.00		3.00
		C_{pe}	-0.90	-1.30	-0.90	-1.30	-0.90	-1.30	-0.90
TC	H (m)		Span (mm)						
1	≤ 5		900	900	900	600	750	450	450
	≤ 10		900	750	750	450	600	300	300
	≤ 25		900	600	600	300	450		
2	≤ 5		1200	900	900	900	900	600	600
	≤ 10		900	900	900	600	750	450	450
	≤ 25		900	750	750	450	600		
2.5	≤ 5		1200	1200	900	900	900	750	750
	≤ 10		1200	900	900	750	900	600	300
	≤ 25		900	900	900	600	600	300	300
3	≤ 5		1200	1200	1200	900	900	750	450
	≤ 10		1200	1200	1200	900	900	750	450
	≤ 25		1200	900	900	750	750	450	450
4	≤ 5		1200	1200	1200	1200	1200	900	900
	≤ 10		1200	1200	1200	1200	1200	900	750
	≤ 25		1200	1200	1200	900	1200	900	600

Inward Load ($C_{pi} = -0.65$, $k_{cl} = 1.00$)		
0.48 BMT	k_{ls}	1.00
	C_{pi}	+0.20
TC	H (m)	Span (mm)
1	≤ 5	1200
	≤ 10	1200
	≤ 25	1200
2	≤ 5	1200
	≤ 10	1200
	≤ 25	1200
2.5	≤ 5	1200
	≤ 10	1200
	≤ 25	1200
3	≤ 5	1200
	≤ 10	1200
	≤ 25	1200
4	≤ 5	1200
	≤ 10	1200
	≤ 25	1200

Product Name

Apex Corrugated Roof Sheet

(Document: 25121-GC-ST-CE-PRODUCT SHEET-CORRO-001)

Product Description

Apex Corrugated profile is a rolled corrugated sheet metal product of 0.42 and 0.48 BMT, manufactured from G550 steel with a galvanised and colorbond finish, for use as roof sheeting.

Manufacturer's Details

Apex Building Products (QLD & NSW) Pty Ltd
32-36 Saltwater Circuit, Narangba QLD 4504
P: 07 3491 4999 W: www.apexsteel.com.au

Design Criteria

Span tables are developed based upon strength (Ultimate Limit State as defined in NCC 2022, Volume 2, Table H1D7 Note 1) wind pressures only, no allowance for dead load contribution outside of profile self-weight, as per AS/NZS 1170.2:2021 given the following conditions for roof sheeting:

Site Wind Speed:		Aerodynamic Shape Factor:	
Wind Region:	C	Internal Combination Factor (k_{ci}):	0.90
Regional Wind Speed (V_{500}):	66 m/s	Area/Volume Factor (k_v):	1.00
Climate Multiplier (M_c):	1.05	Area Reduction Factor (k_a):	1.00
Directional Multiplier (M_d):	1.00	External Combination Factor (k_{ce}):	0.90
Topographic Multiplier (M_t):	1.00	Permeability Factor (k_p):	1.00
Shielding Multiplier (M_s):	1.00	Dynamic Response Factor (C_{dyn}):	1.00

Additional factors ($M_{z,cat}$, k_t , $C_{p,i}$, $C_{p,e}$) are expressed within the span tables relative to the terrain category (TC) and average building height (H). Internal pressure coefficients have been determined assuming an open area ratio of 6% or more as per Table 5.1(B) AS/NZS 1170.2:2021. Roof sheet spans have been determined based on the 'recommended cyclonic ultimate limit state design wind capacity (kPa)' given in JCU TS1195 Revision A; intermediate values have been produced through interpolation.

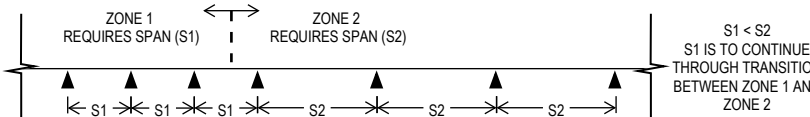
Limitations

Testing assesses the capacity of sheet profile only with supports specified; manufacturer's specifications must be referenced for installation and use of suitable alternative battens and/or girts.

Testing assesses the capacity of sheet profile only with fasteners specified; manufacturer's specifications must be referenced for installation and use of suitable alternative fasteners.

A suitably qualified engineer is to determine applicable site wind pressures and aerodynamic shape factors for applications outside the design criteria listed above.

Application of the sheet profile is limited to equal spans of minimum three or more. At transitions between local pressure zones (to be determined by a suitably qualified engineer) where varied span lengths are desired, the lesser span is to be adopted across any given transition prior to adopting greater span lengths (see diagram below).



Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/482/01-01

Chairperson Signature:

Elisha Harris

Chairperson Name: Elisha Harris

Date of Approval: 11/06/2026 Expiry Date: 11/06/2031

Notes covering basis of DTC (Relevant test reports etc)
Cyclic Simulated Wind Load Strength Testing performed at James Cook University, College of Science and Engineering Cyclone Testing Station, Townsville, Queensland. Test Report: TS1423 (31/03/2026).

Test Programme developed in line with low-high-low fatigue loading sequence for Class 2-9 buildings (Specification S4C2 NCC 2022 V1) and Class 1 & 10 buildings (Specification H1D7 NCC 2022 V2).

With reference to NCC 2022; AS/NZS 1170.0:2002; AS/NZS 1170.1:2002; AS/NZS 1170.2:2021; AS/NZS 1562.1:2018; AS 4040.0:1992; AS 4040.3:2018.

Checking Engineer

Name: Matthew Mammone

Registration Number: 5371177

Date: 02/06/26

Signature: *Matthew Mammone*

Must be an Australian registered structural engineer

Certifying Engineer

Name: Trevor John

NT Registration Number: 12178ES

Date: 08/06/2026

Signature: *Trevor John*

Must be a registered structural engineer in the Northern Territory