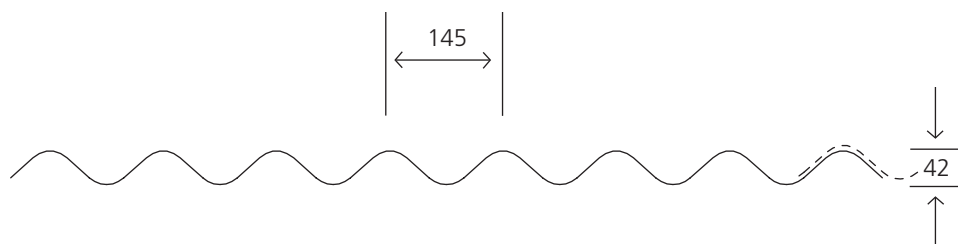


DIMOND SUPER SIX PROFILE PERFORMANCE



Cover (mm)	1007
Sheet width (mm)	1097
Minimum Pitch	3° (approx. 1:20)

All dimensions given are nominal

Sheet Tolerances

Sheet width: ±5mm

Sheet length: +10mm, -0mm. For horizontal wall cladding where notified at time of order of intended use, tighter tolerances can be achieved +3mm, -0mm.

Material Options	Duraclad®
Thickness (BMT) mm	1.7
Nominal weight/lineal metre (kg/m)	2.7
Drape curved roof - min. radius (m)	28
Purlin spacings for drape curved roof (m) (1)	1.2
Machine crimp curved - roof min. radius (mm)	n/a
Unsupported overhang (2)	250

(1) Recommended maximum purlin spacing at minimum radius

(2) Based on 1.1kN point load support, but not intended for roof access.

n/a - not available

Manufacturing location for Duraclad®: Auckland

Sheet lengths: Super Six is custom run to order.

Where long sheets are used consideration must be given to:

- Special transportation licences for sheet lengths over 25m
- Site access for special lifting equipment
- Fixing techniques to accommodate thermal expansion.

Refer Section 2.1.3.4.

SUPER SIX LIMIT STATE LOAD / SPAN CAPACITY CHART

(span in mm, distributed serviceability and ultimate loads in kPa)

Serviceability Category

		Unrestricted-Access Roof	Restricted-Access Roof		Non-Access Roof or Wall		
Duraclad® 1.7mm (Note 4)	End Span		800	1000	1100	1400	1700
	Serviceability & Ultimate	N/R	N/A 4.5	N/A 4.5	N/A 4.5	N/A 3.8	N/A 2.6
	Internal Span		900	1200	1300	1700	2100
	Serviceability & Ultimate	N/R	N/A 4.5	N/A 4.5	N/A 4.5	N/A 3.2	N/A 1.7

Notes

- In any category, spans above the maximum shown should not be used. Category 1 and 2 maximum spans are based on static point load testing as a guide, and further limited by practical experience of roof performance under dynamic foot traffic loads. Category 3 maximum spans are limited as a guide to achieving satisfactory appearance for wall cladding.
- Loads given are based on 4 screw fasteners/sheet/purlin.
- Loads given are limited to a maximum of 4.5 kPa. If design requirements exceed this limit, contact Dimond for specific advice.
- Duraclad®
 - Serviceability Limit State loads are not applicable to the Duraclad® material, as it does not experience permanent deformation.
 - System must include Safety Mesh if intended for use as a Restricted-Access roof. Refer Section 2.2.1.8.
- N/R = not recommended.
- Design Criteria for Limit State Capacities**
 - Serviceability Limit State**
Super Six is supplied only in Duraclad® material. Serviceability criteria of permanent distortion that would cause unacceptable appearance, side lap leakage or water ponding do not apply.
 - Ultimate Limit State**
No pull through of fixings or fastener withdrawal resulting in sheet detachment due to wind up-lift loads, or cracking at the purlin line due to inward wind loads.
- System Design**
The span capacity of Super Six is determined from the Super Six Limit State Load/Span Capacity Chart using the section of the chart appropriate to the grade and type of material, and to the category of serviceability required for foot traffic application. It is recommended that to obtain a dependable design strength capacity for the ultimate limit state, a reduction factor of $\phi = 0.75$ is applied. The capacities given do not apply for cyclonic wind conditions.

Serviceability Requirements

While these categories are given for design guidance to meet the serviceability limit state criteria, foot traffic point load damage may still occur if there is careless placement of these point loads.

- | Service Category | Description |
|-----------------------------|---|
| 1. Unrestricted-access roof | Expect regular foot traffic to access the roof for maintenance work and able to walk anywhere on the roof. No congregation of foot traffic expected. |
| 2. Restricted-access roof | Expect occasional foot traffic educated to walk only on the purlin lines, in the profile pans, or carefully across two profile ribs. Walkways installed where regular traffic is expected, and "Restricted Access" signs placed at access points. |
| 3. Non-access roof or wall | Walls or roofs where no foot traffic access is possible or permitted. If necessary, "No Roof Access" signs used. |
- Wind Pressure Guide**
As a guide for non-specific design the following S.L.S. design loads in accordance with the MRM Roofing Code of Practice can be used for buildings less than 10m high, otherwise AS/NZS 1170.2 should be used
Low wind zone = 0.68kPa, Medium wind zone = 0.93kPa, High wind zone = 1.32kPa, Very high wind zone = 1.72kPa and Extra high wind zone = 2.09kPa.

Fastener Design

Super Six should be screw fixed to either timber or steel purlins. The use of the appropriate length of 12g or 14g screw will ensure failure by screw pull out will not occur under loads within the scope of the Limit State Load / Roofing Span Capacity Chart.

Purlin Type	Screw Fastener			
	Roofing Rib		Wall Cladding Pan	
	Screw Length* (mm)	Designation	Screw Length* (mm)	Designation
Timber	75	T17 - 14 - 10 x 75	50	Roofzip M6 x 50mm
Steel	65	Tek - 12 - 14 x 68 Tek - 14 - 10 x 65	20	Tek - 12 - 14 x 20

*If sarking or insulation is used over the purlins, the screw length will need to be increased.

For screw size range and fastener / washer assembly refer Section 2.2.3.1.

The Limit State Load / Span Capacity Chart is based on 4 screw fasteners/sheet/purlin using load spreading washers that are either profiled metal washers and 36mm EPDM seals.

Long spans may require the specification and use of side lap stitching screws – see Section 2.3.2C Installation Information: Layout and Fastening.

Design Example

Restricted access roof, Duraclad® Super Six has a maximum end span of 1000mm and a maximum internal span of 1200mm. The following distributed load capacities apply.

	4 fasteners/sheet
End Span	1000mm
Internal Span	1200mm
Ultimate	4.5 kPa

Continued on next page...