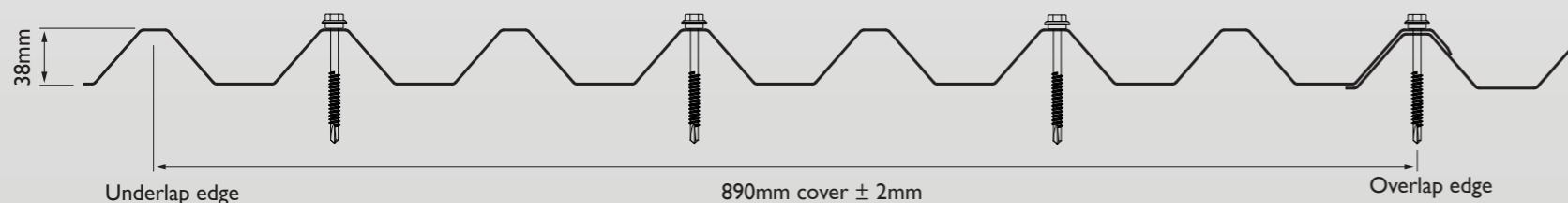


# S7 ROOFING IN REGIONS A & W - without load spreading washers

## 0.55mm BMT G550 AZ150

JUNE 2017



### Maximum Allowable Internal Spans (mm) - Wind\*

Terrain Category	5m Maximum Height					10m Maximum Height				
	KI	Region A		Region W		KI	Region A		Region W	
		End	Internal	End	Internal		End	Internal	End	Internal
1.0	1.0	1910	2740	1570	2250	1.0	1770	2530	1420	2040
	1.5	1520	2180	1180	1690	1.5	1370	1970	1020	1460
	2.0	1230	1760	860	1240	2.0	1070	1540	-	-
	3.0	-	-	-	-	3.0	-	-	-	-
1.5	1.0	2080	2980	1720	2470	1.0	1890	2710	1550	2220
	1.5	1680	2400	1340	1920	1.5	1500	2150	1150	1650
	2.0	1390	1990	1030	1480	2.0	1210	1730	840	1200
	3.0	950	1360	-	-	3.0	-	-	-	-
2.0	1.0	2280	3270	1890	2710	1.0	2030	2900	1680	2410
	1.5	1840	2640	1510	2160	1.5	1630	2340	1290	1850
	2.0	1560	2230	1210	1740	2.0	1350	1930	980	1410
	3.0	1130	1620	-	-	3.0	890	1280	-	-
2.5	1.0	2440	3490	2000	2870	1.0	2260	3240	1890	2700
	1.5	1950	2790	1610	2300	1.5	1840	2630	1490	2140
	2.0	1660	2380	1320	1890	2.0	1550	2220	1200	1720
	3.0	1230	1770	860	1240	3.0	1120	1600	-	-
3.0	1.0	2520	3600	2120	3030	1.0	2520	3600	2120	3030
	1.5	2070	2960	1720	2460	1.5	2070	2960	1720	2460
	2.0	1770	2530	1420	2040	2.0	1770	2530	1420	2040
	3.0	1350	1930	980	1410	3.0	1350	1930	980	1410

**Note:** All end spans shall not exceed 70% of the maximum allowable internal span.

Values shown in shaded italics shall be reduced for 'Unrestricted Roof Access' requirements.

\*Not to Exceed Maximum Allowable Spans as Specified Based on Access Requirements

Fastener Details		
Steel	Minimum 1.0mm (BMT)	M6-14 x 65mm self drilling screws.
Timber	Hardwood (F17)	14-10 gauge timber fixing screws with minimum 35mm embedment depth.
	Softwood (F7)	14-10 gauge timber fixing screws with minimum 35mm embedment depth.

Spans exceeding 1200mm require side lap fixing mid-span with lap fastener spacing not greater than 1500mm. Lap fasten with 10 gauge self drilling screws.

Note: All fasteners shall be minimum class 4 and require neoprene seals.

Design Pressures (kPa)		
Span (mm)	Serviceability	Strength
	Internal	Internal
1200	2.25	6.24
1500	1.90	5.44
1800	1.60	4.71
2100	1.33	4.06
2400	1.11	3.49
2700	0.92	2.99
3000	0.77	2.57
3300	0.67	2.22
3600	0.60	1.95

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### Installation Requirements

Stratco S7 sheets should be laid into the prevailing wind within the maximum allowable spans allocated subject to the design criteria. Alternatively, a suitably qualified engineer may assess spans in accordance with the design pressures. The S7 profile shall be installed to maintain a minimum 3° roof pitch. Refer to Stratco if any criteria is outside that as nominated on this detail sheet.

### Maintenance Requirements

The performance of Stratco S7 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 S7 is used in corrosive environments, cleaning should be performed more often. It is important that screws have the same life expectancy as the S7 cladding specified. Packs of S7 should always be kept dry and stored above ground level on site. If sheets 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.

### Roof Access

**Unrestricted** roof access allows for maintenance foot traffic to a maximum weight of 110kg to be applied at any point on the roof without congregation. **Restricted** roof access allows for maintenance foot traffic to a maximum weight of 110kg to be applied within 300mm of sheet supports only with weight evenly distributed over at least two roof crests.

**No Access** applies to roof surfaces with a pitch greater than 35° due to slope being unsafe to walk on.

### Snow loads

0.55mm BMT S7 Roofing has been tested to sustain a maximum 2kPa snow load with no permanent deformation at 2700mm maximum continuous span. Appropriate design snow loading shall be determined by a suitably qualified engineer.

### Maximum Allowable Spans (mm) - Access

Access	End	Internal
Unrestricted	1680	2400
Restricted/No Access	2520	3600

### Design Criteria

The following criteria were used in the development of the tables:

- Region A & W with a design return period of 500 years for Strength Limit State and 25 years for Serviceability Limit State.
- Region A:  $V_R = 45\text{m/s}$  strength, 37m/s serviceability  
Region W:  $V_R = 51\text{m/s}$  strength, 43m/s serviceability
- $M_s/M_t/M_d = 1.0$
- $K_{c,e} = K_{c,i} = 0.9$

Height (m)	Terrain/height Multiplier ( $M_{z,cat}$ )				
	1.0	1.5	2.0	2.5	3.0
≤ 5.0	1.05	0.98	0.91	0.87	0.83
≤ 10.0	1.12	1.06	1	0.92	0.83

Pressure Coefficients for Roofing of Enclosed Building:

Internal,  $C_{p,i} = +0.2$

External,  $C_{p,e} = -0.9$

Allocated spans do not allow for Lee Zones, for areas within these zones, utilise the wind capacity tables to calculate spans based on the relevant allowance for Lee Multipliers.

### Limitations

- Design pressures and maximum allowable spans are based on crest fixing with four screws per sheet per support.
- If fixing over insulation, screw length should be increased to ensure sufficient penetration of the fastener.
- Maximum overhang is 300mm for Stratco S7 Roofing with the back-span to be minimum 1.5 x the deck overhang. Overhangs are not to be walked on.
- Refer AS/NZS 1170.2 for definition of local pressure (KI) zones. KI=3.0 is only applicable in the upwind corner of roofs with a pitch less than 10°.

### Notes

- Design criteria determined in accordance with AS/NZS 1170.2:2012 Wind Actions.
- If roof access requirements are unknown or in doubt, maximum allowable spans specified as 'Unrestricted' should be adopted.
- In all cases when accessing roof for maintenance requirements, care should be taken to avoid roof damage. Walking should be 'flat' footed with weight distributed over at least two sheet crests.