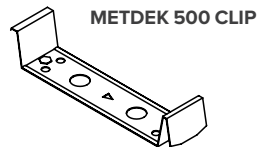
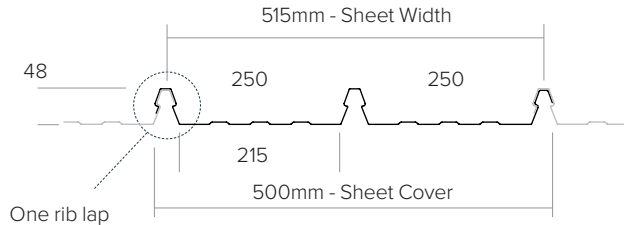


## METDEK 500 - LOADSPAN TABLES

Minimum Pitch: 3 degrees.  
Applications: Commercial and residential.  
Orientation: Roofs and horizontal and vertical wall cladding.



### WEIGHT

| FINISH             | BMT (mm) | WEIGHT kg/m <sup>2</sup> |
|--------------------|----------|--------------------------|
| COLORSTEEL® MAXAM® | 0.55     | 6.80                     |
| ZINCALUME®         | 0.55     | 6.62                     |

### FASTENERS

#### EMBEDMENT INTO TIMBER:

Minimum embedment into timber structure to be a minimum of 35mm as per E2/ AS1, suitable for all wind zones upto Extra High as per NZS 3604:2011.

#### CONSIDERATION FOR SED PROJECTS:

For Specific Engineered Projects the project engineer must satisfy themselves that the screw axial withdrawal force is sufficient to resist the project design load and must consider additional specific design requirements of both the structure (size and fixings) and also fixing (size, length and embedment, axial withdrawal force).

#### EMBEDMENT INTO STEEL:

Minimum steel embedment should be 5 - 6mm beyond the drill point with a minimum of 3 threads beyond the drill point.

| APPLICATION                                   | STRUCTURE       | SCREW TYPE<br>Countersunk Heads     |
|-----------------------------------------------|-----------------|-------------------------------------|
| CLIP FIXING<br><br>ROOFING<br>AND<br>CLADDING | DIRECT<br>FIXED | TIMBER                              |
|                                               |                 | 10x45 FHCBSQ2OR<br>45mm LONG*       |
|                                               | 20MM<br>CAVITY  | STEEL                               |
|                                               |                 | ST10-16x30<br>CL4WA5Q2<br>30mm LONG |
|                                               |                 | TIMBER                              |
|                                               |                 | 10x3CL4RCBSQ2<br>75mm LONG*         |
|                                               |                 | STEEL                               |
|                                               |                 | ST10-16x45CL4SQDWS<br>45mm LONG     |

\*Screw length might vary for SED projects, requires project engineer to sign off.

### DESIGN ASSUMPTIONS - GENERAL

#### METAL ROOFING AND CLADDING TESTING

Testing of Metdek 500 is carried out in accordance with NZMRM Code of Practice - Testing and NZMRM Standards.

#### FIXINGS TO EVERY SECOND PURLIN:

##### Extract NZMRM code of practice:

Fastening to every second purlin may be within the roof's load/ span range, but will double the load acting on the fastened purlins. All purlins must be fastened to, unless alternate purlins are specifically designed to take the additional loads. Please refer to NZMRM Code of Practice.

#### CANTILVER /OVERHANG:

Metdek 500 overhang/cantilver, based on point load should not exceed 150mm.

### DESIGN ASSUMPTIONS - WIND ZONES NZS3604:2011

Metdek 500 is suitable in all wind zones, up to Extra High as defined in Table 5.4 NZS3604:2011, the kPa loads for Low, Medium, High, Very High and Extra High have been derived from applying :

#### SERVICIBILITY LIMIT STATE (SLS)

Pressure Co-efficients: cpe-cpi = 1.1  
Local Pressure Factor: kl = 1.5  
Serviceability Load Factor: 0.7

#### ULTIMATE LIMIT STATE (ULS)

Pressure Co-efficients: cpe-cpi = 1.1  
Local Pressure Factor: kl = 1.5  
Ultimate Load Factor: 1.0

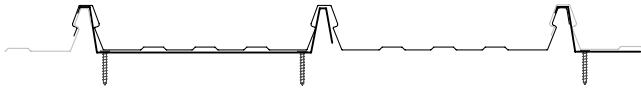
#### IMPORTANT:

If the parameters in the table to the left change then the span recommendations in the following tables will no longer apply and the project engineer must reference the Specific Engineered Design (SED) Loadspan Tables and relevant guidance notes.

| WIND ZONES<br>AS PER NZ3604:2011 | WIND<br>SPEED | SLS  | ULS  |
|----------------------------------|---------------|------|------|
| LOW                              | 32 m/s        | 0.60 | 0.98 |
| MEDIUM                           | 37 m/s        | 0.93 | 1.32 |
| HIGH                             | 44 m/s        | 1.32 | 1.88 |
| VERY HIGH                        | 50 m/s        | 1.72 | 2.44 |
| EXTRA HIGH                       | 55 m/s        | 2.09 | 2.96 |

## MAXIMUM SPANS

### ROOFING AND WALL CLADDING - CLIP FIXED



#### POINT LOAD LIMIT:

Point load testing in accordance with AS 4040.1 and the NZMRM COP. 1.3kN in pan ( serviceability load ) and 2.41kN ( strength load).

#### 0.55 BMT G550 STEEL:

##### RESTRICTED ACCESS:

**2400mm max.**

##### Type B are roofs:

that are simple in design and do not have to be regularly traversed by the installer;

which are infrequently accessed by qualified trades people for maintenance; or

with a pitch of more than 35°.

For Type B, roofs the cladding must resist the load of 1.1 kN applied to the pan or over

two ribs and a 2 kPa load applied to the weakest point.

#### NON-TRAFFICABLE WHEN SPANS EXCEED

**2400mm max.**

##### Type C – Non-Trafficable Type C are roofs:

where supports are required to be laid to support roof traffic, or traffic should take place within 300 mm of purlin lines, which have a pitch of 60° or greater; and including non-trafficable translucent roof sheeting.

For Type C roofs, the cladding must resist the minimum load of 0.5 kN applied to the pan or over two ribs.

## MAXIMUM SPANS NZS 3604:2011

Table to be read in conjunction with design considerations, fastener information and design assumptions on page 1.  
Table has been discounted by a variability factor of 1.30.

| METDEK 500 - 0.55MM BMT G550 STEEL (ULS)<br>ULS Design Wind Pressure ((kPa) |                                       |                                                         |                                         |                                                              |
|-----------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------|
| MATERIAL<br>GRADE                                                           | WIND ZONES<br>AS PER<br>NZS 3604:2011 | TYPE A<br>UN-RESTRICTED ACCESS<br>MAXIMUM SPANS<br>(mm) | TYPE B<br>RESTRICTED ACCESS<br>(mm)     | NON TRAFFICABLE<br>MAXIMUM SPANS<br>(WIND LOAD ONLY)<br>(mm) |
|                                                                             |                                       | ROOFING ONLY                                            | ROOFING ONLY                            | ROOFING & WALL<br>CLADDING                                   |
|                                                                             |                                       | BRACKET FIXED<br>INTERMEDIATE/<br>END SPAN              | BRACKET FIXED<br>INTERMEDIATE/ END SPAN | BRACKET FIXED<br>INTERMEDIATE/ END SPAN                      |
| 0.55BMT<br>G550<br>STEEL                                                    | LOW (0.98 kPa)                        | NOT SUITABLE                                            | 2400 / 1500                             | 3000 / 1980                                                  |
|                                                                             | MEDIUM (1.32 kPa)                     |                                                         |                                         |                                                              |
|                                                                             | HIGH (1.88 kPa)                       |                                                         | 2400 / 1500                             | 2700 / 1782                                                  |
|                                                                             | VERY HIGH (2.44 kPa)                  |                                                         | 1650 / 1089                             | 1650 / 1089                                                  |
|                                                                             | EXTRA HIGH (2.96 kPa)                 |                                                         | 1100 / 726                              | 1100 / 726                                                   |

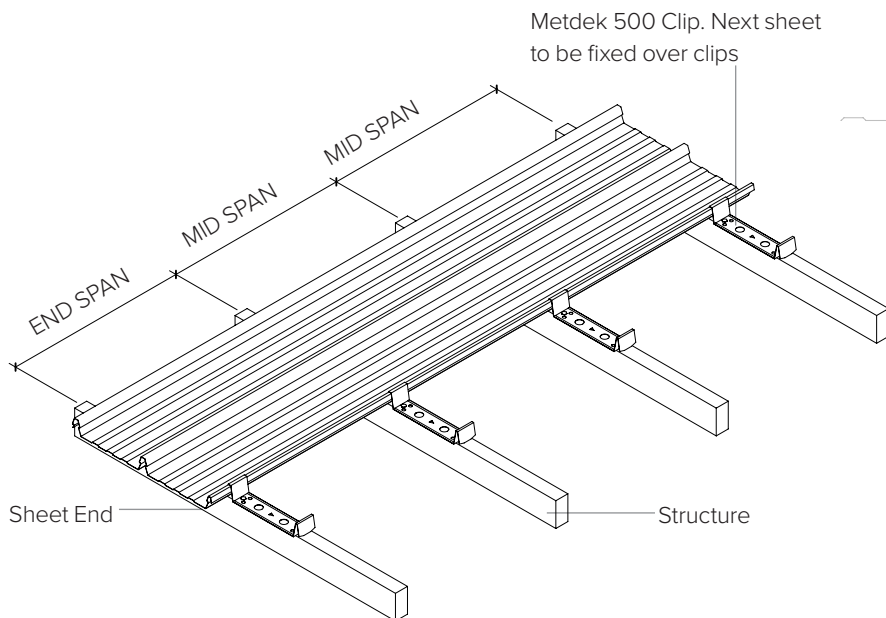
## SED MAXIMUM SPANS IN ACCORDANCE WITH AS/NZS1170.

Table to be read in conjunction with design considerations and fastener information on page 1.  
Table has been discounted by a variability factor of 1.30.  
End spans to be a maximum of 2/3 of intermediate spans.

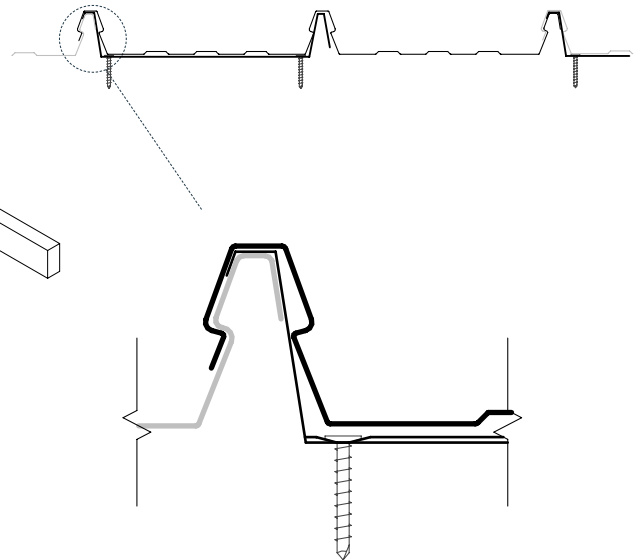
| METDEK 500 - 0.55MM BMT G550 STEEL (ULS)<br>ULS Design Wind Pressure ((kPa) |      |      |      |      |
|-----------------------------------------------------------------------------|------|------|------|------|
| INTERMEDIATE MAXIMUM SPANS (mm)<br>ULS Design Wind Pressure ((kPa)          |      |      |      |      |
| INTERMEDIATE<br>SPAN (mm)                                                   | 450  | 900  | 1800 | 3000 |
| ULS (kPa)                                                                   | 5.39 | 3.15 | 2.33 | 1.74 |

## FASTENER LAYOUT - ROOFING AND WALL CLADDING

### METDEK 500 - 3D ROOFING FIXING PATTERNS - CLIP FIXED



Metdek 500 - Fixing Patterns - Clip Fixed



Metdek 500 - Lap Joint - Clip Fixed

### METDEK 500 - 3D WALL FIXING PATTERNS - CLIP FIXED

