

# APEX 20 AND 40mm BATTENS

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## INTRODUCTION

These load tables for the APEX 20mm and 40mm battens comply with AS/NZS 4600 and have been prepared using software developed by the University of Sydney, Australia.

Load tables for single, double and triple spans (unlapped) have been prepared.

## DISCLAIMER

These load tables have been prepared having made some assumptions which have been clearly stated in the footnotes of the load tables. It is the responsibility of the customer to check whether these assumptions are valid for their particular applications. APEX recommends that specialist advice be sought to confirm the suitability of the products for the proposed application.

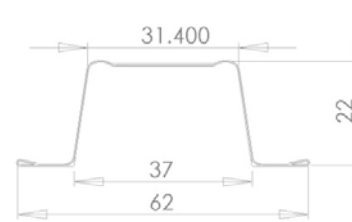
## APEX 22mm AND 40mm BATTENS

The 40mm high battens are available in 3 thicknesses – 0.48, 0.55 and 0.75 mm Base Metal Thickness (B.M.T.). The 22 mm high batten is only available in 0.42 mm B.M.T. **Please Note - Battens Thickness Vary in each State & Branch, Please contact your local office to confirm gauge before ordering.**

All APEX 22mm and 40mm battens are manufactured from G550 (550 MPa) high tensile steel and are coated in accordance with AS1397 AZ150. For more severe environmental conditions heavier coating thicknesses are available. Please contact APEX for assistance.

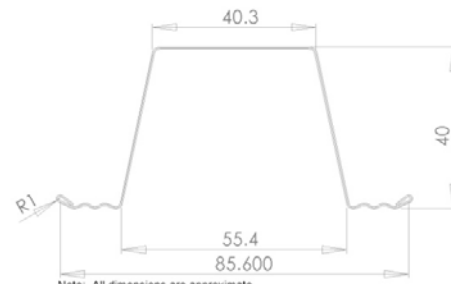
## APPLICATION

The 40mm sections are used mainly as roof battens, and the 22mm sections are mainly used as ceiling battens.



Note: Dimensions are approximate only

22 mm Batten - available in 0.42 B.M.T



Note: All dimensions are approximate

APEX 40mm Batten - available in 0.48, 0.55 and 0.75 B.M.T.

## APEX 22 AND 40mm BATTENS

| FULL SECTION PROPERTIES – APEX 22 AND 40mm BATTENS |          |             |                         |   |   |   |   |   |                     |                     |                      |                     |   |
|--|----------|-------------|-------------------------|---|---|---|---|---|---------------------|---------------------|----------------------|---------------------|---|
| Section  | BMT (mm) | Mass (Kg/m) | Area (mm <sup>2</sup> ) | I <sub>x</sub> (10 <sup>3</sup> mm <sup>4</sup> ) | I <sub>y</sub> (10 <sup>3</sup> mm <sup>4</sup> ) | Z <sub>x,top</sub> (10 <sup>3</sup> mm <sup>3</sup> ) | Z <sub>x,bot</sub> (10 <sup>3</sup> mm <sup>3</sup> ) | Z <sub>y</sub> (10 <sup>3</sup> mm <sup>3</sup> ) | r <sub>x</sub> (mm) | r <sub>y</sub> (mm) | J (mm <sup>4</sup> ) | β <sub>x</sub> (mm) | I <sub>w</sub> (10 <sup>6</sup> mm <sup>4</sup> ) |
| TH022042   | 0.42     | 0.32        | 40.17                   | 3.089   | 12.13   | 0.269   | 0.262   | 0.398   | 8.77                | 17.38               | 2.362                | -57.59              | 0.292   |
| TH040048   | 0.48     | 0.57        | 72.89                   | 17.82   | 45.62   | 0.871   | 0.861   | 1.040   | 15.64               | 25.02               | 5.598                | -90.43              | 2.966   |
| TH040055   | 0.55     | 0.66        | 84.18                   | 20.71   | 53.26   | 1.013   | 1.000   | 1.209   | 15.69               | 25.15               | 8.488                | -90.56              | 3.489   |
| TH040075   | 0.75     | 0.90        | 114.7                   | 28.11   | 72.62   | 1.382   | 1.357   | 1.639   | 15.65               | 25.16               | 21.51                | -90.20              | 4.852   |

Note: BMT = Base Metal Thickness

**Table 1 Full section properties of 22 and 40mm battens**

| Screw size | Screw pull out capacity in kN/screw                       |      |       |      |       |       |       |       |
|------------|---|------|-------|------|-------|-------|-------|-------|
|            | Grade and wall thickness of purlin supporting the battens |      |       |      |       |       |       |       |
|            | 1.0mm   |      | 1.2mm |      | 1.5mm | 1.9mm | 2.4mm | 3.0MM |
|            | G550  | G300 | G500  | G300 | G450  | G450  | G450  | G450  |
| 10g        | 1.12  | 0.69 | 1.27  | 0.83 | 1.47  | 1.86  | 2.35  | 2.94  |
| 12g        | 1.29  | 0.79 | 1.46  | 0.95 | 1.68  | 2.13  | 2.69  | 3.37  |
| 14g        | 1.47  | 0.91 | 1.67  | 1.09 | 1.93  | 2.44  | 3.08  | 3.48  |

Notes:

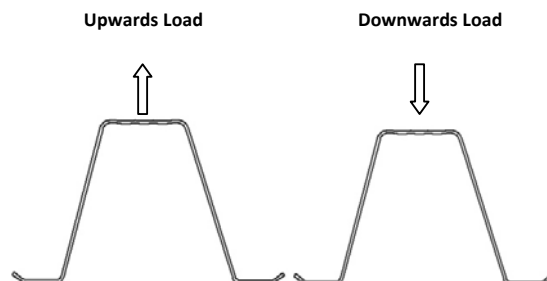
- Screw pull-out capacities are valid where the minimum edge distances from the screw centres are at least 3 times the diameter of the screw and the battens and purlins are in contact at the point of fastening.
- Screw head diameters should be equal or greater than those specified in AS3566.1

**Table 2 Screw pull out capacity**

## LOAD TABLES FOR 22 AND 40mm BATTENS

| LOAD TABLE FOR APEX 22 AND 40 mm BATTENS |      |                          |              |                            |                          |              |                            |                          |              |                            |
|--|------|--------------------------|--------------|----------------------------|--------------------------|--------------|----------------------------|--------------------------|--------------|----------------------------|
| SECTION                                  | SPAN | SINGLE SPAN LOADS (kN/m) |              |                            | DOUBLE SPAN LOADS (kN/m) |              |                            | TRIPLE SPAN LOADS (kN/m) |              |                            |
|  |      | DOWNWARDS LOAD           | UPWARDS LOAD | Deflection Load (Span/150) | DOWNWARDS LOAD           | UPWARDS LOAD | Deflection Load (Span/150) | DOWNWARDS LOAD           | UPWARDS LOAD | Deflection Load (Span/150) |
| TH022042                                 | 450  | 3.27                     | 2.65         | 3.47                       | 2.83                     | 3.21         | 8.37                       | 3.52                     | 3.98         | 6.65                       |
|  | 600  | 1.84                     | 1.38         | 1.46                       | 1.60                     | 1.82         | 3.53                       | 2.00                     | 2.21         | 2.81                       |
| TH040048                                 | 900  | 2.08                     | 2.07         | 2.50                       | 2.49                     | 2.03         | 6.04                       | 3.06                     | 2.42         | 4.79                       |
|  | 1200 | 1.17                     | 0.98         | 1.06                       | 1.38                     | 1.10         | 2.55                       | 1.63                     | 1.27         | 2.02                       |
| TH040055                                 | 900  | 2.65                     | 2.51         | 2.91                       | 3.13                     | 2.57         | 7.04                       | 3.87                     | 3.04         | 5.57                       |
|  | 1200 | 1.49                     | 1.17         | 1.23                       | 1.71                     | 1.38         | 2.96                       | 2.04                     | 1.59         | 2.35                       |
| TH040075                                 | 900  | 4.46                     | 3.77         | 3.95                       | 4.95                     | 4.28         | 9.52                       | 6.03                     | 5.03         | 7.56                       |
|  | 1200 | 2.51                     | 1.59         | 1.67                       | 2.63                     | 2.29         | 4.02                       | 3.19                     | 2.6          | 3.19                       |

Note: LOADS FOR DOUBLE AND TRIPLE SPANS ARE FOR UNLAPPED SPANS



Notes:

- These load tables comply with AS4600.
- Deflections are based on full section properties.
- The deflection load is the load to obtain a deflection of Span/150.
- In preparing these load tables it has been assumed that roof sheeting has been attached to the battens with approved screw fasteners.

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