



## Arkdeck 135.310.930: 25-a-Ark-Prod-03\_2015

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|                                     |   |          |                             |                           |                              |                           |                        |                      |
|-------------------------------------|---|----------|-----------------------------|---------------------------|------------------------------|---------------------------|------------------------|----------------------|
| Profile dimensions                  |   |          |                             |                           |                              |                           |                        |                      |
| BZ                                  |   |          |                             |                           |                              |                           |                        |                      |
| Cover width                         |   |          |                             |                           |                              |                           |                        |                      |
| 930mm                               |   |          |                             |                           |                              |                           |                        |                      |
| Depth                               | 135mm   |          |                             |                           |                              |                           |                        |                      |
| Pitch                               | 301mm   |          |                             |                           |                              |                           |                        |                      |
| Colour side                         | <p><i>930mm cover width</i></p> <p><b>Colour side</b><br/>                 A = to top side/ broad flat<br/>                 B = to underside/ narrow flat</p>   |          |                             |                           |                              |                           |                        |                      |
| A = to top side<br>B = to underside |   |          |                             |                           |                              |                           |                        |                      |
| Material                            | S320 GD+Z275/MZ150: EN 10326. Plain galvanised finish.<br>S320 GD+Z275/MZ150: EN 10326. 15micron RAL9010 polyester bright white and RAL9002 grey/white finishes.<br>25micron polyester, Colorcoat HPS200 Ultra® and aluminium available to special order. |          |                             |                           |                              |                           |                        |                      |
| Section properties                  |   | Weight   | Broad flange in compression |                           | Narrow flange in compression |                           | Reaction, Shear        |                      |
|                                     | $t_N$ mm  | $kg/m^2$ | $M_{c,Rk,F}$<br>(kNm/m)     | $I_{eff}$<br>( $cm^4/m$ ) | $M_{c,Rk,F}$<br>(kNm/m)      | $I_{eff}$<br>( $cm^4/m$ ) | $R_{w,Rk,B}$<br>(kN/m) | $V_{w,Rk}$<br>(kN/m) |
|                                     | 0.75  | 9.50     | 8.95                        | 271.13                    | 7.89                         | 262.59                    | 28.40                  | 31.01                |
|                                     | 0.88  | 11.14    | 11.36                       | 321.67                    | 10.41                        | 319.01                    | 39.14                  | 49.52                |
|                                     | 1.00  | 12.66    | 13.66                       | 367.55                    | 12.85                        | 367.55                    | 50.29                  | 71.89                |
|                                     | 1.25  | 15.83    | 18.28                       | 463.08                    | 18.01                        | 463.08                    | 77.09                  | 131.77               |
|                                     | 1.5   | 18.99    | 22.62                       | 558.54                    | 21.90                        | 558.54                    | 108.48                 | 188.54               |

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| Structural:  | $t_N$ mm | 5.2m | 5.4m | 5.6m | 5.8m | 6.0m | 6.2m | 6.4m | 6.6m | 6.8m |
|--|----------|------|------|------|------|------|------|------|------|------|
| Single spans<br>Positive (gravity) loads<br>$kN/m^2$<br>L/200                    | 0.75     | 1.55 | 1.39 | 1.24 | 1.12 | 1.01 |      |      |      |      |
|  | 0.88     | 1.84 | 1.65 | 1.48 | 1.33 | 1.20 | 1.09 |      |      |      |
|  | 1.00     | 2.11 | 1.88 | 1.69 | 1.52 | 1.37 | 1.24 | 1.13 | 1.03 |      |
|  | 1.25     | 2.66 | 2.37 | 2.13 | 1.91 | 1.73 | 1.57 | 1.42 | 1.30 | 1.19 |
|  | 1.5      | 3.20 | 2.86 | 2.56 | 2.31 | 2.09 | 1.89 | 1.72 | 1.57 | 1.43 |
| Structural:<br>Single spans<br>negative (wind uplift) loads<br>$kN/m^2$<br>L/150 | $t_N$ mm | 5.2m | 5.4m | 5.6m | 5.8m | 6.0m | 6.2m | 6.4m | 6.6m | 6.8m |
|  | 0.75     | 1.56 | 1.44 | 1.34 | 1.25 | 1.17 | 1.10 | 1.03 |      |      |
|  | 0.88     | 2.05 | 1.90 | 1.77 | 1.65 | 1.54 | 1.44 | 1.31 | 1.19 | 1.09 |
|  | 1.00     | 2.53 | 2.35 | 2.18 | 2.03 | 1.83 | 1.66 | 1.51 | 1.37 | 1.26 |
|  | 1.25     | 3.54 | 3.16 | 2.84 | 2.55 | 2.31 | 2.09 | 1.90 | 1.73 | 1.58 |
| Structural:<br>Double spans<br>positive (gravity) loads<br>$kN/m^2$<br>L/200     | $t_N$ mm | 5.2m | 5.4m | 5.6m | 5.8m | 6.0m | 6.2m | 6.4m | 6.6m | 6.8m |
|  | 0.75     | 1.77 | 1.64 | 1.52 | 1.42 | 1.33 | 1.24 | 1.17 | 1.10 | 1.03 |
|  | 0.88     | 2.24 | 2.08 | 1.93 | 1.80 | 1.68 | 1.58 | 1.48 | 1.39 | 1.31 |
|  | 1.00     | 2.69 | 2.50 | 2.32 | 2.17 | 2.02 | 1.89 | 1.78 | 1.67 | 1.58 |
|  | 1.25     | 3.61 | 3.34 | 3.11 | 2.90 | 2.71 | 2.54 | 2.38 | 2.24 | 2.11 |
| Structural:<br>Double spans<br>negative (wind uplift) loads<br>$kN/m^2$<br>L/150 | $t_N$ mm | 5.2m | 5.4m | 5.6m | 5.8m | 6.0m | 6.2m | 6.4m | 6.6m | 6.8m |
|  | 0.75     | 1.75 | 1.63 | 1.52 | 1.42 | 1.33 | 1.24 | 1.17 | 1.10 | 1.03 |
|  | 0.88     | 2.24 | 2.08 | 1.93 | 1.80 | 1.68 | 1.58 | 1.48 | 1.39 | 1.31 |
|  | 1.00     | 2.69 | 2.50 | 2.32 | 2.17 | 2.02 | 1.89 | 1.78 | 1.67 | 1.58 |
|  | 1.25     | 3.61 | 3.34 | 3.11 | 2.90 | 2.71 | 2.54 | 2.38 | 2.24 | 2.11 |
| Structural:<br>Triple spans<br>positive (gravity) loads<br>$kN/m^2$<br>L/200     | $t_N$ mm | 5.2m | 5.4m | 5.6m | 5.8m | 6.0m | 6.2m | 6.4m | 6.6m | 6.8m |
|  | 0.75     | 1.77 | 1.64 | 1.52 | 1.42 | 1.33 | 1.24 | 1.17 | 1.10 | 1.03 |
|  | 0.88     | 2.24 | 2.08 | 1.93 | 1.81 | 1.71 | 1.62 | 1.53 | 1.45 | 1.38 |
|  | 1.00     | 2.73 | 2.56 | 2.41 | 2.27 | 2.14 | 2.02 | 1.92 | 1.82 | 1.72 |
|  | 1.25     | 3.96 | 3.71 | 3.48 | 3.28 | 3.09 | 2.92 | 2.74 | 2.50 | 2.28 |
| Structural:<br>Triple spans<br>negative (wind uplift) loads<br>$kN/m^2$<br>L/150 | $t_N$ mm | 5.2m | 5.4m | 5.6m | 5.8m | 6.0m | 6.2m | 6.4m | 6.6m | 6.8m |
|  | 0.75     | 2.13 | 2.00 | 1.88 | 1.76 | 1.65 | 1.55 | 1.46 | 1.37 | 1.29 |
|  | 0.88     | 2.80 | 2.60 | 2.42 | 2.25 | 2.10 | 1.97 | 1.85 | 1.74 | 1.64 |
|  | 1.00     | 3.37 | 3.12 | 2.90 | 2.71 | 2.53 | 2.37 | 2.22 | 2.09 | 1.97 |
|  | 1.25     | 4.51 | 4.18 | 3.89 | 3.62 | 3.39 | 3.17 | 2.98 | 2.80 | 2.64 |
|  | 1.5      | 5.58 | 5.17 | 4.81 | 4.48 | 4.19 | 3.92 | 3.68 | 3.46 | 3.26 |

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| Fire properties                            | Class 0 or 'low risk' internal surface spread of flame as defined in the national Building Regulations. Reaction to fire classification A1 to BS EN 13501-1  |  |
| Load/span table criteria                   | End bearing >40mm, intermediate > 160mm.<br>Loads in kN/m <sup>2</sup> , including a load factor of 1.5. Table excludes profile self weight.<br>Deflection limits L/200 for positive loads, L/150 for negative (wind) loads.   |  |
| Curve options                              | Along profile: n/a. Across profile nominally 2m, site formed.  |  |
| Fastener types                             | Primary: Carbon steel or A2 stainless steel 5.5mm Ø, 16mm Ø sealer washer.<br>Stitchers: Carbon steel or A2 stainless steel 5.5mm or 6.3mm Ø, 16mm Ø sealer washer, or rivets, as specified by the architect.  |  |
| Fastener frequency                         | End laps (100mm minimum)- 1No/trough minimum, 2No if required by calculations. Edge distance minimum 30mm.<br>Side laps- 450mm nominal centres unless calculations require otherwise (diaphragm).  |  |
| Sealants                                   | The air barrier and vapour control are provided by the vcl membrane. Deck laps are normally unsealed. Filler blocks bedded in sealant must be used. Web perforated deck will require filler blocks bedded in sealant to the underside and topside to continue the air barrier/ vapour seal. Particular attention should be paid to internal compartment walls and avoiding sound and air flanking due to the web perforations. |  |
| Size/ weight/handling                      | Max pack weight 2.5t. Smaller pack weights on request, but note that this may affect haulage costs.<br>Minimum sheet size 1.5m, max 13.2m.<br>Packs labeled and banded to timber framing. Plain galvanised profiles should be protected from damp and condensation while in the pack to avoid white rust.  |  |
| Colour side and orientation                | The standard colour side is referred to as side B and is the underside of the profile as seen in the diagrams. Note that profiles are generally supplied inverted with the colour side uppermost to protect from scratching during positioning on site. Profiles have to be inverted before installation   |  |
| Acoustics                                  | Profiles marked "perfo" are available with perforations to the mid section of the web of the profile. With tissue faced acoustic batts set within the trough of the deck, the web perforations allow the deck to provide sound absorption.<br>R5T12.5:15% and R5T8:35% web or broad flat perforation patterns available subject to profile and production factory.   |  |
| Reference Standards                        | BS EN 1991-1-3, BS EN 10143<br>BS EN 10346, BS EN 1990<br>BS EN 1993-1-3, BS EN 1993-1-5   | BS EN 1991-1-6, BS EN 1991-1-3<br>BS EN 1991-1-5, BS EN 508-1:2000 |