## SECTION PROPERTIES FOR S68
## AS/NZS 2041.4:2010 Section 3 Table 3.3 [C]

| Material Type | Material Standard | Specified Thickness mm | Structural Wall Thickness ($t$) mm | Section Area ($A$) mm²/mm | Second Moment of Area ($I$) mm⁴/mm | Elastic Section Modulus ($W_{el}$) mm³/mm | Radius of Gyration ($i$) mm | Plastic Section Modulus ($W_{pl}$) mm³/mm |
|---|---|---|---|---|---|---|---|---|
| Galvanized Steel | AS 1397 | 1.60 | 1.60 | 1.73 | 32.33 | 4.52 | 4.33 | 6.63 |
| Polymer-coated Galvanized Steel | ASTM A742 | 2.01 | 1.91 | 2.06 | 38.65 | 5.29 | 4.33 | 7.93 |
| Galvanized Steel | AS 1397 | 2.00 | 2.00 | 2.16 | 40.56 | 5.52 | 4.33 | 8.32 |
| Galvanized Steel | AS 1397 | 2.50 | 2.50 | 2.70 | 50.93 | 6.70 | 4.34 | 10.46 |
| Polymer-coated Galvanized Steel | ASTM A742 | 2.77 | 2.67 | 2.88 | 54.41 | 7.08 | 4.35 | 11.18 |
| Galvanized Steel | AS 1397 | 3.00 | 3.00 | 3.24 | 61.39 | 7.82 | 4.35 | 12.62 |
| Polymer-coated Galvanized Steel | ASTM A742 | 3.51 | 3.42 | 3.70 | 70.33 | 8.72 | 4.36 | 14.48 |
| Galvanized Steel | AS 1397 | 3.50 | 3.50 | 3.78 | 71.95 | 8.88 | 4.36 | 14.82 |

## SECTION PROPERTIES FOR S75
## AS/NZS 2041.4:2010 Section 3 Table 3.3 [D]

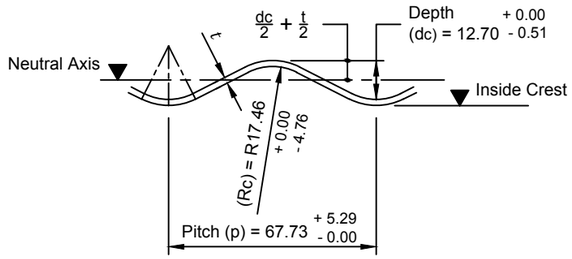
| Material Type | Material Standard | Specified Thickness mm | Structural Wall Thickness ($t$) mm | Section Area ($A$) mm²/mm | Second Moment of Area ($I$) mm⁴/mm | Elastic Section Modulus ($W_{el}$) mm³/mm | Radius of Gyration ($i$) mm | Plastic Section Modulus ($W_{pl}$) mm³/mm |
|---|---|---|---|---|---|---|---|---|
| Galvanized Steel | AS 1397 | 1.60 | 1.60 | 1.98 | 149.13 | 11.05 | 8.67 | 15.25 |
| Polymer-coated Galvanized Steel | ASTM A742 | 2.01 | 1.91 | 2.37 | 178.42 | 13.07 | 8.68 | 18.23 |
| Galvanized Steel | AS 1397 | 2.00 | 2.00 | 2.48 | 187.27 | 13.67 | 8.69 | 19.12 |
| Galvanized Steel | AS 1397 | 2.50 | 2.50 | 3.11 | 235.44 | 16.88 | 8.71 | 24.01 |
| Polymer-coated Galvanized Steel | ASTM A742 | 2.77 | 2.67 | 3.31 | 251.65 | 17.93 | 8.71 | 25.65 |
| Galvanized Steel | AS 1397 | 3.00 | 3.00 | 3.73 | 284.15 | 20.01 | 8.73 | 28.94 |
| Polymer-coated Galvanized Steel | ASTM A742 | 3.51 | 3.42 | 4.26 | 325.88 | 22.61 | 8.75 | 33.16 |
| Galvanized Steel | AS 1397 | 3.50 | 3.50 | 4.36 | 333.41 | 23.07 | 8.75 | 33.92 |

## SECTION PROPERTIES FOR S125
## AS/NZS 2041.4:2010 Section 3 Table 3.3 [E]

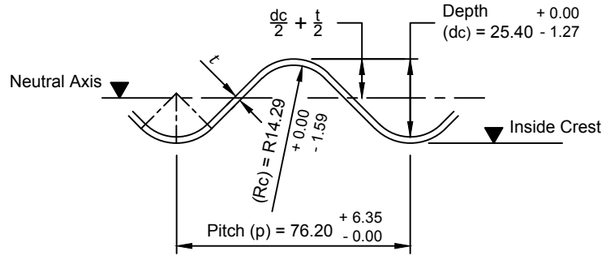
| Material Type | Material Standard | Specified Thickness mm | Structural Wall Thickness ($t$) mm | Section Area ($A$) mm²/mm | Second Moment of Area ($I$) mm⁴/mm | Elastic Section Modulus ($W_{el}$) mm³/mm | Radius of Gyration ($i$) mm | Plastic Section Modulus ($W_{pl}$) mm³/mm |
|---|---|---|---|---|---|---|---|---|
| Galvanized Steel | AS 1397 | 1.60 | 1.60 | 1.77 | 152.38 | 11.04 | 9.28 | 14.81 |
| Polymer-coated Galvanized Steel | ASTM A742 | 2.01 | 1.91 | 2.11 | 181.97 | 13.04 | 9.28 | 17.68 |
| Galvanized Steel | AS 1397 | 2.00 | 2.00 | 2.21 | 190.89 | 13.63 | 9.29 | 18.54 |
| Galvanized Steel | AS 1397 | 2.50 | 2.50 | 2.77 | 239.26 | 16.79 | 9.30 | 23.24 |
| Polymer-coated Galvanized Steel | ASTM A742 | 2.77 | 2.67 | 2.95 | 255.47 | 17.82 | 9.30 | 24.81 |
| Galvanized Steel | AS 1397 | 3.00 | 3.00 | 3.32 | 287.89 | 19.85 | 9.31 | 27.96 |
| Polymer-coated Galvanized Steel | ASTM A742 | 3.51 | 3.42 | 3.79 | 329.32 | 22.38 | 9.32 | 31.98 |
| Galvanized Steel | AS 1397 | 3.50 | 3.50 | 3.88 | 336.78 | 22.83 | 9.32 | 32.70 |

## MATERIAL PROPERTIES - STEEL COIL
## AS/NZS 2041.4:2010 Section 3 Table 3.3 [A]

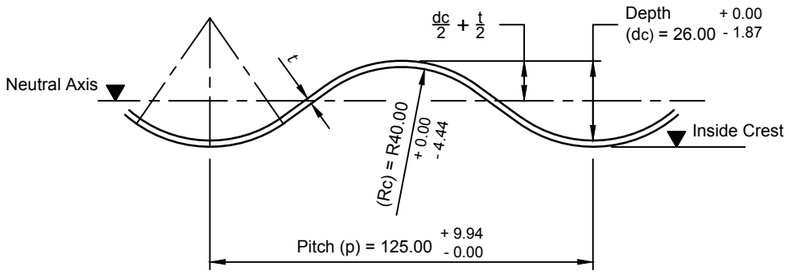
| Material Standard | Metal Grade | Minimum Yield Strength ($f_y$) Mpa | Minimum Tensile Strength ($f_u$) Mpa |
|---|---|---|---|
| AS 1397 | G250 Steel | 250 | 320 |
| ASTM A929 | G230 Steel | 227.5 | 310.3 |




**STILCOR PROFILE S68**
**S68 CORRUGATION: 68mm x 13mm**
SCALE 1:2




**STILCOR PROFILE S75**
**S75 CORRUGATION: 75mm x 25mm**
SCALE 1:2




**STILCOR PROFILE S125**
**S125 CORRUGATION: 125mm x 25mm**
SCALE 1:2

**Notes:**

1. 't' = The structural base metal wall thickness (BMWT) without coatings.
2. Section properties are calculated from the nominal rolled shape of the sinusoidal profile with the nominal dimensions shown on this drawing.
3. For the purposes of calculating the minimum structural wall thickness, the thickness shown in the "Section Properties" tables may be interpolated to approximate intermediate thicknesses using the equations shown in the "Calculations" table on this drawing.

### Minimum Structural Wall Thickness Calculations for "S68"

| | | | |
|---|---|---|---|
| a) | $A$ | = | $1.082t$ - 0.003 |
| b) | $I$ | = | $20.891t$ - 1.097 |
| c) | $W_{el}$ | = | $2.275t$ + 0.879 |
| d) | $i$ | = | $0.019t$ + 4.296 |
| e) | $W_{pl}$ | = | $4.323t$ - 0.288 |

### Minimum Structural Wall Thickness Calculations for "S75"

| | | | |
|---|---|---|---|
| a) | $A$ | = | $1.249t$ - 0.016 |
| b) | $I$ | = | $97.678t$ - 7.967 |
| c) | $W_{el}$ | = | $6.241t$ + 1.168 |
| d) | $i$ | = | $0.043t$ + 8.600 |
| e) | $W_{pl}$ | = | $9.889t$ - 0.643 |

**PRELIMINARY ISSUE**
**ISSUED FOR COMMENT**

### Minimum Structural Wall Thickness Calculations for "S125"

| | | | |
|---|---|---|---|
| a) | $A$ | = | $1.109t$ - 0.005 |
| b) | $I$ | = | $97.380t$ - 3.815 |
| c) | $W_{el}$ | = | $6.097t$ + 1.418 |
| d) | $i$ | = | $0.022t$ + 9.242 |
| e) | $W_{pl}$ | = | $9.453t$ + 0.356 |

| Rev | Date | Revision Description | Drawn | Draft Chk | Des Eng | Lead Eng |
|---|---|---|---|---|---|---|
| 5 | | | | | | |
| 4 | | | | | | |
| 3 | | | | | | |
| 2 | | | | | | |
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| 0 | 10 MAR 17 | INITIAL ISSUE | BF | BF | | |

A3 Scale: AS SHOWN



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