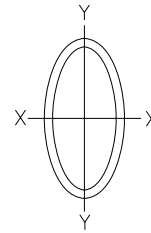


**Table 1 – EHS Engineering Properties**

**HOLLOW STRUCTURAL SECTIONS**

**CSA G40.20**

**Elliptical**



**PROPERTIES AND DIMENSIONS**

| Designation        | Wall Thickness | Mass | Dead Load | Area            | Axis X-X                        |                                 |       |                                 | Axis Y-Y                        |                                 |       |                                 | Torsion Inertia Constant        | Torsion Modulus Constant        | Surface Area      |
|--------------------|----------------|------|-----------|-----------------|---------------------------------|---------------------------------|-------|---------------------------------|---------------------------------|---------------------------------|-------|---------------------------------|---------------------------------|---------------------------------|-------------------|
|                    |                |      |           |                 | $I_x$                           | $S_x$                           | $r_x$ | $Z_x$                           | $I_y$                           | $S_y$                           | $r_y$ | $Z_y$                           |                                 |                                 |                   |
| mm x mm x mm       | mm             | kg/m | kN/m      | mm <sup>2</sup> | 10 <sup>6</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | mm    | 10 <sup>3</sup> mm <sup>3</sup> | 10 <sup>6</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | mm    | 10 <sup>3</sup> mm <sup>3</sup> | 10 <sup>3</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | m <sup>2</sup> /m |
| <b>EHS 500x250</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x16                | 16.00          | 142  | 1.39      | 18 000          | 437                             | 1 750                           | 156   | 2 460                           | 145                             | 1 160                           | 89.8  | 1 500                           | 437 000                         | 2 590                           | 1.21              |
| x12.5              | 12.50          | 112  | 1.10      | 14 200          | 350                             | 1 400                           | 157   | 1 960                           | 118                             | 943                             | 91.0  | 1 200                           | 353 000                         | 2 110                           | 1.21              |
| x10                | 10.00          | 90.0 | 0.883     | 11 500          | 285                             | 1 140                           | 158   | 1 580                           | 96.8                            | 775                             | 91.9  | 976                             | 290 000                         | 1 740                           | 1.21              |
| <b>EHS 480x240</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x14                | 14.00          | 119  | 1.17      | 15 200          | 342                             | 1 420                           | 150   | 2 000                           | 114                             | 953                             | 86.7  | 1 220                           | 343 000                         | 2 120                           | 1.16              |
| x12                | 12.00          | 103  | 1.01      | 13 100          | 298                             | 1 240                           | 151   | 1 730                           | 100                             | 835                             | 87.4  | 1 060                           | 300 000                         | 1 870                           | 1.16              |
| x10                | 10.00          | 86.3 | 0.847     | 11 000          | 252                             | 1 050                           | 151   | 1 460                           | 85.3                            | 711                             | 88.1  | 897                             | 255 000                         | 1 590                           | 1.16              |
| <b>EHS 400x200</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x14                | 14.00          | 98.7 | 0.969     | 12 600          | 194                             | 968                             | 124   | 1 370                           | 64.2                            | 642                             | 71.4  | 832                             | 193 000                         | 1 420                           | 0.969             |
| x12.5              | 12.50          | 88.6 | 0.869     | 11 300          | 175                             | 877                             | 125   | 1 230                           | 58.4                            | 584                             | 71.9  | 753                             | 176 000                         | 1 300                           | 0.969             |
| x12                | 12.00          | 85.2 | 0.836     | 10 900          | 169                             | 845                             | 125   | 1 190                           | 56.5                            | 565                             | 72.1  | 726                             | 170 000                         | 1 260                           | 0.969             |
| x10                | 10.00          | 71.5 | 0.702     | 9 110           | 143                             | 717                             | 125   | 1 000                           | 48.3                            | 483                             | 72.8  | 615                             | 145 000                         | 1 080                           | 0.969             |
| x8                 | 8.00           | 57.6 | 0.565     | 7 340           | 117                             | 584                             | 126   | 811                             | 39.7                            | 397                             | 73.5  | 500                             | 119 000                         | 890                             | 0.969             |
| <b>EHS 320x160</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x14                | 14.00          | 78.0 | 0.765     | 9 940           | 96.0                            | 600                             | 98.3  | 855                             | 31.4                            | 392                             | 56.2  | 517                             | 94 800                          | 863                             | 0.776             |
| x12                | 12.00          | 67.5 | 0.662     | 8 600           | 84.2                            | 526                             | 99.0  | 745                             | 27.8                            | 347                             | 56.9  | 453                             | 83 800                          | 769                             | 0.776             |
| x10                | 10.00          | 56.7 | 0.556     | 7 230           | 71.8                            | 449                             | 99.7  | 631                             | 23.9                            | 299                             | 57.5  | 385                             | 71 900                          | 665                             | 0.776             |
| x8                 | 8.00           | 45.8 | 0.449     | 5 830           | 58.8                            | 367                             | 100   | 513                             | 19.8                            | 247                             | 58.2  | 315                             | 59 300                          | 553                             | 0.776             |

**Table 1 (continued) – EHS Engineering Properties**

| Designation        | Wall Thickness | Mass | Dead Load | Area            | Axis X-X                        |                                 |       |                                 | Axis Y-Y                        |                                 |       |                                 | Torsion Inertia Constant        | Torsion Modulus Constant        | Surface Area      |
|--------------------|----------------|------|-----------|-----------------|---------------------------------|---------------------------------|-------|---------------------------------|---------------------------------|---------------------------------|-------|---------------------------------|---------------------------------|---------------------------------|-------------------|
|                    |                |      |           |                 | $I_x$                           | $S_x$                           | $r_x$ | $Z_x$                           | $I_y$                           | $S_y$                           | $r_y$ | $Z_y$                           |                                 |                                 |                   |
| mm x mm x mm       | mm             | kg/m | kN/m      | mm <sup>2</sup> | 10 <sup>6</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | mm    | 10 <sup>3</sup> mm <sup>3</sup> | 10 <sup>6</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | mm    | 10 <sup>3</sup> mm <sup>3</sup> | 10 <sup>3</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | m <sup>2</sup> /m |
| <b>EHS 300x150</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x16                | 16.00          | 82.5 | 0.809     | 10 500          | 87.3                            | 582                             | 91.2  | 837                             | 28.1                            | 374                             | 51.7  | 503                             | 85 300                          | 818                             | 0.727             |
| x12.5              | 12.50          | 65.5 | 0.643     | 8 340           | 71.2                            | 475                             | 92.4  | 674                             | 23.3                            | 311                             | 52.9  | 409                             | 70 500                          | 686                             | 0.727             |
| x10                | 10.00          | 53.0 | 0.520     | 6 750           | 58.7                            | 391                             | 93.2  | 551                             | 19.5                            | 260                             | 53.7  | 336                             | 58 700                          | 577                             | 0.727             |
| x8                 | 8.00           | 42.8 | 0.420     | 5 450           | 48.1                            | 321                             | 93.9  | 449                             | 16.2                            | 215                             | 54.4  | 275                             | 48 500                          | 481                             | 0.727             |
| <b>EHS 250x125</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x12.5              | 12.50          | 53.9 | 0.529     | 6 870           | 40.0                            | 320                             | 76.3  | 458                             | 12.9                            | 207                             | 43.4  | 276                             | 39 200                          | 453                             | 0.606             |
| x12                | 12.00          | 51.9 | 0.510     | 6 620           | 38.6                            | 309                             | 76.4  | 442                             | 12.5                            | 201                             | 43.5  | 267                             | 38 000                          | 440                             | 0.606             |
| x10                | 10.00          | 43.8 | 0.429     | 5 580           | 33.2                            | 265                             | 77.1  | 376                             | 10.9                            | 174                             | 44.2  | 228                             | 32 900                          | 385                             | 0.606             |
| x8                 | 8.00           | 35.4 | 0.347     | 4 510           | 27.3                            | 219                             | 77.8  | 307                             | 9.09                            | 145                             | 44.9  | 188                             | 27 300                          | 323                             | 0.606             |
| x6.3               | 6.30           | 28.2 | 0.276     | 3 590           | 22.1                            | 176                             | 78.4  | 246                             | 7.42                            | 119                             | 45.5  | 151                             | 22 200                          | 265                             | 0.606             |
| x6                 | 6.00           | 26.9 | 0.263     | 3 420           | 21.1                            | 169                             | 78.5  | 235                             | 7.11                            | 114                             | 45.6  | 145                             | 21 300                          | 255                             | 0.606             |
| <b>EHS 220x110</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x10                | 10.00          | 38.2 | 0.375     | 4 870           | 22.2                            | 201                             | 67.4  | 287                             | 7.22                            | 131                             | 38.5  | 174                             | 21 800                          | 288                             | 0.533             |
| x8                 | 8.00           | 31.0 | 0.304     | 3 950           | 18.3                            | 167                             | 68.1  | 235                             | 6.06                            | 110                             | 39.2  | 143                             | 18 200                          | 244                             | 0.533             |
| x6                 | 6.00           | 23.5 | 0.231     | 3 000           | 14.2                            | 129                             | 68.8  | 181                             | 4.76                            | 86.6                            | 39.9  | 111                             | 14 300                          | 193                             | 0.533             |
| <b>EHS 200x100</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x12.5              | 12.50          | 42.4 | 0.416     | 5 400           | 19.5                            | 195                             | 60.2  | 284                             | 6.19                            | 124                             | 33.9  | 169                             | 18 900                          | 269                             | 0.485             |
| x10                | 10.00          | 34.5 | 0.339     | 4 400           | 16.4                            | 164                             | 61.0  | 235                             | 5.29                            | 106                             | 34.7  | 141                             | 16 000                          | 232                             | 0.485             |
| x8                 | 8.00           | 28.0 | 0.275     | 3 570           | 13.6                            | 136                             | 61.7  | 193                             | 4.46                            | 89.3                            | 35.4  | 117                             | 13 500                          | 197                             | 0.485             |
| x6.3               | 6.30           | 22.3 | 0.219     | 2 840           | 11.0                            | 110                             | 62.3  | 155                             | 3.68                            | 73.5                            | 36.0  | 94.7                            | 11 000                          | 163                             | 0.485             |

**Table 1 (continued) – EHS Engineering Properties**

| Designation       | Wall Thickness | Mass | Dead Load | Area            | Axis X-X                        |                                 |       |                                 | Axis Y-Y                        |                                 |       |                                 | Torsion Inertia Constant        | Torsion Modulus Constant        | Surface Area      |
|-------------------|----------------|------|-----------|-----------------|---------------------------------|---------------------------------|-------|---------------------------------|---------------------------------|---------------------------------|-------|---------------------------------|---------------------------------|---------------------------------|-------------------|
|                   |                |      |           |                 | $I_x$                           | $S_x$                           | $r_x$ | $Z_x$                           | $I_y$                           | $I_x$                           | $S_x$ | $r_x$                           |                                 |                                 |                   |
| mm x mm x mm      | mm             | kg/m | kN/m      | mm <sup>2</sup> | 10 <sup>6</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | mm    | 10 <sup>3</sup> mm <sup>3</sup> | 10 <sup>6</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | mm    | 10 <sup>3</sup> mm <sup>3</sup> | 10 <sup>3</sup> mm <sup>4</sup> | 10 <sup>3</sup> mm <sup>3</sup> | m <sup>2</sup> /m |
| <b>EHS 180x90</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x10               | 10.00          | 30.8 | 0.302     | 3 930           | 11.7                            | 130                             | 54.6  | 187                             | 3.75                            | 83.3                            | 30.9  | 112                             | 11 400                          | 182                             | 0.436             |
| x8                | 8.00           | 25.1 | 0.246     | 3 190           | 9.74                            | 108                             | 55.2  | 154                             | 3.18                            | 70.6                            | 31.6  | 93.3                            | 9 610                           | 155                             | 0.436             |
| x6                | 6.00           | 19.1 | 0.187     | 2 430           | 7.61                            | 84.6                            | 55.9  | 119                             | 2.53                            | 56.2                            | 32.2  | 72.6                            | 7 600                           | 125                             | 0.436             |
| <b>EHS 150x75</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x10               | 10.00          | 25.3 | 0.248     | 3 220           | 6.49                            | 86.6                            | 44.9  | 126                             | 2.04                            | 54.5                            | 25.2  | 75.1                            | 6 250                           | 118                             | 0.364             |
| x8                | 8.00           | 20.6 | 0.202     | 2 630           | 5.46                            | 72.8                            | 45.6  | 105                             | 1.76                            | 46.8                            | 25.9  | 62.9                            | 5 330                           | 102                             | 0.364             |
| x6.3              | 6.30           | 16.5 | 0.162     | 2 100           | 4.48                            | 59.7                            | 46.2  | 84.9                            | 1.47                            | 39.1                            | 26.4  | 51.5                            | 4 430                           | 86.3                            | 0.364             |
| x6                | 6.00           | 15.8 | 0.155     | 2 010           | 4.30                            | 57.3                            | 46.3  | 81.3                            | 1.41                            | 37.7                            | 26.5  | 49.3                            | 4 260                           | 83.2                            | 0.364             |
| x5                | 5.00           | 13.3 | 0.130     | 1 690           | 3.67                            | 48.9                            | 46.6  | 68.9                            | 1.22                            | 32.5                            | 26.9  | 42.0                            | 3 670                           | 72.2                            | 0.364             |
| x4                | 4.00           | 10.7 | 0.105     | 1 360           | 3.01                            | 40.1                            | 47.0  | 56.1                            | 1.01                            | 26.9                            | 27.2  | 34.4                            | 3 030                           | 60.1                            | 0.364             |
| <b>EHS 120x60</b> |                |      |           |                 |                                 |                                 |       |                                 |                                 |                                 |       |                                 |                                 |                                 |                   |
| x8                | 8.00           | 16.2 | 0.159     | 2 060           | 2.66                            | 44.3                            | 35.9  | 64.7                            | 0.837                           | 27.9                            | 20.2  | 38.4                            | 2 560                           | 60.4                            | 0.291             |
| x6                | 6.00           | 12.4 | 0.122     | 1 580           | 2.12                            | 35.4                            | 36.6  | 50.7                            | 0.686                           | 22.9                            | 20.8  | 30.5                            | 2 080                           | 50.1                            | 0.291             |
| x5                | 5.00           | 10.5 | 0.103     | 1 340           | 1.82                            | 30.4                            | 36.9  | 43.2                            | 0.597                           | 19.9                            | 21.2  | 26.2                            | 1 800                           | 43.9                            | 0.291             |
| x4                | 4.00           | 8.48 | 0.083     | 1 080           | 1.50                            | 25.1                            | 37.3  | 35.3                            | 0.499                           | 16.6                            | 21.5  | 21.5                            | 1 500                           | 36.9                            | 0.291             |
| x3.2              | 3.20           | 6.85 | 0.067     | 873             | 1.23                            | 20.5                            | 37.6  | 28.7                            | 0.414                           | 13.8                            | 21.8  | 17.6                            | 1 240                           | 30.8                            | 0.291             |