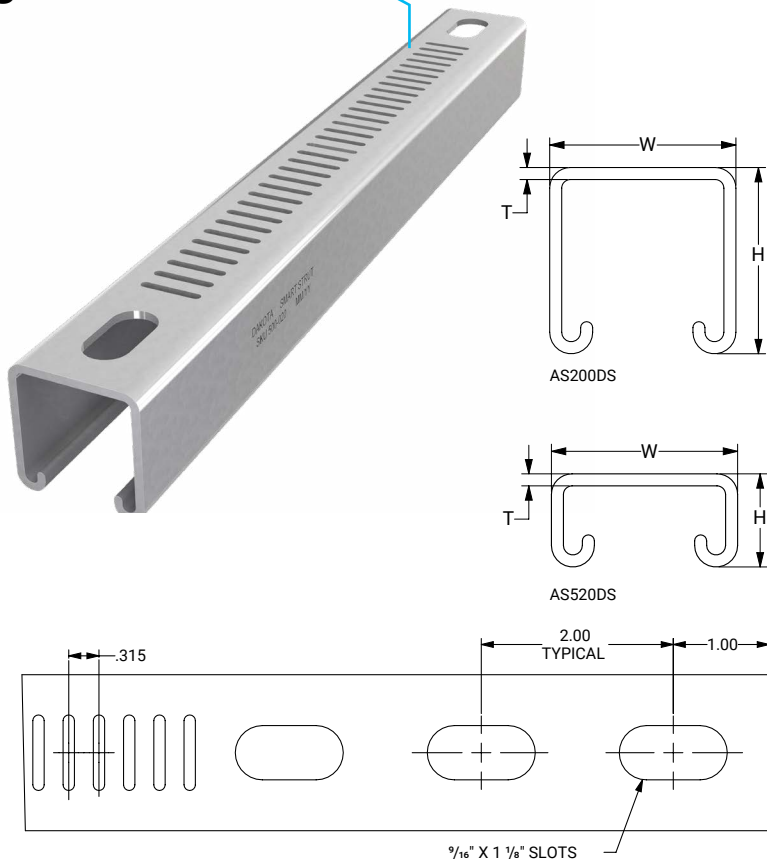


## Dakota Smart-Strut™ Fig. AS200DS/AS520DS



### Material Specifications

#### Size

AS200DS - 1 5/8" X 1 5/8" 12 GA.  
AS520DS - 1 3/16" X 1 5/8" 12 GA.

#### Material

ASTM A-653 - Gr. 50 Class 1 SS

#### Finish

Pre Galvanized/Zinc Plated

#### Hanger Hole Profile

1/16" X 1 1/8" Elongated Holes

#### Length

14" (0.36m)  
24" (0.61m)  
42" (1.07m)  
78" (1.98m)

#### Features

- Pre-cut lengths
- Elongated slots for hanger rod attachment options
- Premium grade material
- Slotted profile for Smart-Clamps™
- Great for pre-fabricating trapeze hangers

#### Ordering

Specify figure number and length.

#### Notes

Other lengths available upon request

Fig. AS200DS / AS520DS - Dimensions and Weight

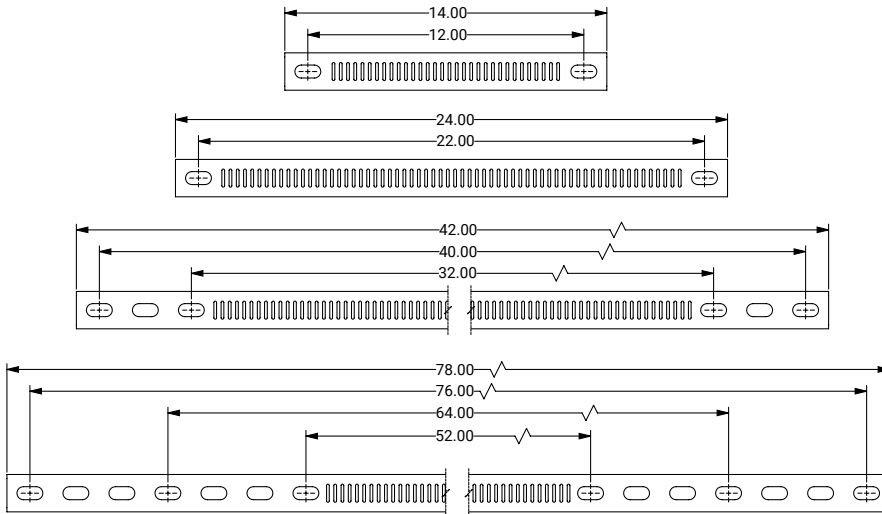
| Figure  | W      | H      | T      | Weight         |
|---------|--------|--------|--------|----------------|
|         | in./mm | in./mm | ga./mm | lbs/in / kg/cm |
| AS200DS | 1.625  | 1.625  | 12     | 0.148          |
|         | 41.3   | 41.3   | 2.67   | 0.067          |
| AS520DS | 1.625  | 0.938  | 12     | 0.099          |
|         | 41.3   | 23.8   | 2.67   | 0.045          |

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| PROJECT INFORMATION | APPROVAL STAMP    |
|---------------------|-------------------|
| Project:            | Approved          |
| Address:            | Approved as noted |
| Contractor:         | Not approved      |
| Engineer:           | Remarks:          |
| Submittal Date:     |                   |
| Notes 1:            |                   |
| Notes 2:            |                   |

## Dakota Smart-Strut™ Fig. AS200DS/AS520DS



### Dakota Smart-Strut Dimensions

| Length (L) | Max Trapeze Span | Number of Holes | Number of Slots |
|------------|------------------|-----------------|-----------------|
| in./mm     | in./mm           |                 |                 |
| 14<br>356  | 12<br>305        | 2               | 32              |
| 24<br>610  | 22<br>559        | 2               | 64              |
| 42<br>1067 | 36<br>914        | 6               | 96              |
| 78<br>1981 | 72<br>1829       | 14              | 160             |

### Dakota Smart-Strut Section Properties

| Figure  | W             | CG            | Loading Across X-X Axis           |               |                                   | Loading Across Y-Y Axis           |               |                                   |
|---------|---------------|---------------|-----------------------------------|---------------|-----------------------------------|-----------------------------------|---------------|-----------------------------------|
|         |               |               | I                                 | S             | r                                 | I                                 | S             | r                                 |
|         |               |               | in. <sup>2</sup> /cm <sup>2</sup> | in./mm        | in. <sup>4</sup> /cm <sup>4</sup> | in. <sup>3</sup> /cm <sup>3</sup> | in./cm        | in. <sup>4</sup> /cm <sup>4</sup> |
| AS200DS | 0.545<br>3.52 | 0.686<br>1.74 | 0.179<br>7.45                     | 0.203<br>3.33 | 0.573<br>1.46                     | 0.232<br>9.66                     | 0.264<br>4.33 | 0.652<br>1.66                     |
| AS520DS | 0.374<br>2.41 | 0.315<br>0.80 | 0.029<br>1.21                     | 0.033<br>0.54 | 0.278<br>0.71                     | 0.133<br>5.54                     | 0.151<br>2.47 | 0.596<br>1.51                     |

I = Moment of Inertia S = Section Modulus r = Radius of Gyration CG = Distance from Center-of-Gravity to the Back Wall



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## Dakota Smart-Strut™ Fig. AS200DS/AS520DS

### Design Loads Per MFMA-4 Simply Supported – Uniform Load – X-X Axis

| Span or Unbraced Length (X) | DS200DS  |                        |                         |                         |                         | DS520DS  |                        |                         |                         |                         |
|-----------------------------|----------|------------------------|-------------------------|-------------------------|-------------------------|----------|------------------------|-------------------------|-------------------------|-------------------------|
|                             | Max Load | Deflection at Max Load | Load at Deflection      |                         |                         | Max Load | Deflection at Max Load | Load at Deflection      |                         |                         |
|                             |          |                        | Span (L)/180 Deflection | Span (L)/240 Deflection | Span (L)/360 Deflection |          |                        | Span (L)/180 Deflection | Span (L)/240 Deflection | Span (L)/360 Deflection |
| In.                         | Lbf      | In.                    | Lbf                     | Lbf                     | Lbf                     | Lbf      | In.                    | Lbf                     | Lbf                     | Lbf                     |
| 12                          | 2,981    | 0.015                  | 2,981                   | 2,981                   | 2,981                   | 484      | 0.015                  | 484                     | 484                     | 484                     |
| 22                          | 1,626    | 0.050                  | 1,626                   | 1,626                   | 1,626                   | 264      | 0.050                  | 264                     | 264                     | 264                     |
| 32                          | 1,118    | 0.105                  | 1,118                   | 1,118                   | 942                     | 181      | 0.105                  | 181                     | 181                     | 153                     |
| 36                          | 993      | 0.133                  | 993                     | 993                     | 744                     | 161      | 0.133                  | 161                     | 161                     | 120                     |
| 40                          | 894      | 0.165                  | 894                     | 894                     | 603                     | 145      | 0.164                  | 145                     | 145                     | 97                      |
| 52                          | 688      | 0.278                  | 688                     | 535                     | 356                     | 111      | 0.277                  | 111                     | 86                      | 57                      |
| 60                          | 596      | 0.371                  | 536                     | 402                     | 268                     | 96       | 0.367                  | 87                      | 65                      | 43                      |
| 68                          | 526      | 0.476                  | 417                     | 313                     | 208                     | 85       | 0.473                  | 67                      | 50                      | 33                      |
| 76                          | 470      | 0.594                  | 334                     | 250                     | 167                     | 76       | 0.591                  | 54                      | 40                      | 27                      |

### Design Loads Per MSS SP-58 Simply Supported – Center Load – X-X Axis

| Span or Unbraced Length (X) | DS200DS  |                        |                         |                         |                         | DS520DS  |                        |                         |                         |                         |
|-----------------------------|----------|------------------------|-------------------------|-------------------------|-------------------------|----------|------------------------|-------------------------|-------------------------|-------------------------|
|                             | Max Load | Deflection at Max Load | Load at Deflection      |                         |                         | Max Load | Deflection at Max Load | Load at Deflection      |                         |                         |
|                             |          |                        | Span (L)/180 Deflection | Span (L)/240 Deflection | Span (L)/360 Deflection |          |                        | Span (L)/180 Deflection | Span (L)/240 Deflection | Span (L)/360 Deflection |
| In.                         | Lbf      | In.                    | Lbf                     | Lbf                     | Lbf                     | Lbf      | In.                    | Lbf                     | Lbf                     | Lbf                     |
| 12                          | 1,490    | 0.012                  | 1,490                   | 1,490                   | 1,490                   | 242      | 0.012                  | 242                     | 242                     | 242                     |
| 22                          | 813      | 0.040                  | 813                     | 813                     | 813                     | 132      | 0.040                  | 132                     | 132                     | 132                     |
| 32                          | 559      | 0.084                  | 559                     | 559                     | 559                     | 90       | 0.084                  | 90                      | 90                      | 90                      |
| 36                          | 496      | 0.107                  | 496                     | 496                     | 465                     | 80       | 0.106                  | 80                      | 80                      | 75                      |
| 40                          | 447      | 0.132                  | 447                     | 447                     | 376                     | 72       | 0.131                  | 72                      | 72                      | 61                      |
| 52                          | 344      | 0.223                  | 344                     | 334                     | 223                     | 55       | 0.219                  | 55                      | 54                      | 36                      |
| 60                          | 298      | 0.296                  | 298                     | 251                     | 167                     | 48       | 0.294                  | 48                      | 40                      | 27                      |
| 68                          | 263      | 0.381                  | 260                     | 195                     | 130                     | 42       | 0.374                  | 42                      | 31                      | 21                      |
| 76                          | 235      | 0.475                  | 208                     | 156                     | 104                     | 38       | 0.473                  | 33                      | 25                      | 16                      |

1. The capacities shown above include the span weight of the channel.
2. The capacities shown above are derived using an allowable stress of 25,000 psi.



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