



METAL FRAMING CHANNEL

Cold Formed Strut

19449 Progress Dr. • Strongsville • OH • 44149 • PH: 440-878-1199

ES400 STANDARD, ES400EH SLOTTED

1-5/8" x 1"

12 Gauge

Part No: ES400 **Weight:** 144lbs /100 Ft.

Part No: ES400EH **Weight:** 136lbs /100 Ft.

ORDER BY: Part Number, Finish, Length

Material: ASTM A-653 LOW CARBON STEEL

Finish: PL - Plain

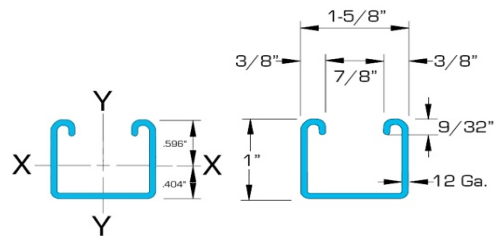
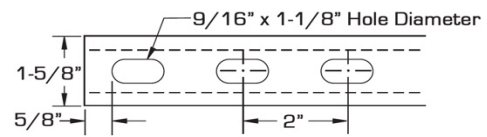
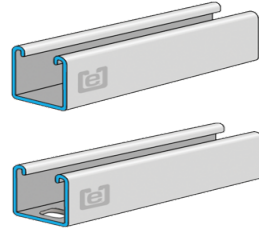
PG90 - Pre-Galvanized Grade 90

PG60 - Pre-Galvanized Grade 60

HG - Hot Dipped Galvanized

Length : 10'

(feet) 20'



ELEMENTS OF SECTION - ES400 & ES400EH

| Area of Section | X-X Axis | | | Y-Y Axis | | |
|-----------------|--|--------------------------------------|---------------------------|--|--------------------------------------|---------------------------|
| | Moment of Inertia (Inch ⁴) | Section Modulus (Inch ³) | Radius of Gyration (Inch) | Moment of Inertia (Inch ⁴) | Section Modulus (Inch ³) | Radius of Gyration (Inch) |
| 0.424 | 0.053 | 0.092 | 0.354 | 0.161 | 0.198 | 0.616 |

BEAM LOADING ES400 & ES400EH

| Span (inch) | Lateral Bracing Load Reduction Factors | Maximum Allowable Uniform Load (lbs) | Deflection at Uniform Load (lbs) | Uniform Loading Deflection | | |
|-------------|--|--------------------------------------|----------------------------------|----------------------------|----------------|----------------|
| | | | | Span/180 (lbs) | Span/240 (lbs) | Span/360 (lbs) |
| 24 | 1.00 | 770 | 0.09 | 770 | 770 | 580 |
| 36 | 1.00 | 510 | 0.20 | 510 | 390 | 260 |
| 48 | 0.98 | 380 | 0.35 | 290 | 220 | 150 |
| 60 | 0.96 | 310 | 0.56 | 190 | 140 | 90 |
| 72 | 0.94 | 260 | 0.80 | 130 | 100 | 60 |
| 84 | 0.92 | 220 | 1.08 | 90 | 70 | 50 |
| 96 | 0.91 | 190 | 1.39 | 70 | 50 | 40 |
| 108 | 0.89 | 170 | 1.78 | 60 | 40 | 30 |
| 120 | 0.87 | 150 | 2.15 | 50 | 30 | 20 |
| 144 | 0.84 | 130 | 3.22 | 30 | 20 | 20 |
| 168 | 0.81 | 110 | 4.32 | NR | NR | NR |
| 192 | 0.78 | 100 | 5.87 | NR | NR | NR |
| 216 | 0.75 | 90 | 7.52 | NR | NR | NR |

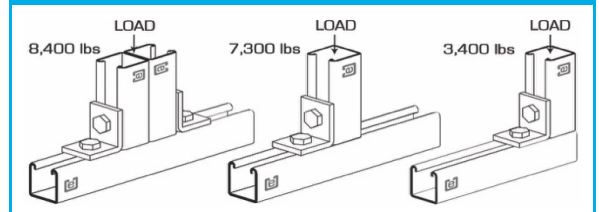
COLUMN LOADING ES400 & ES400EH

| Unbraced Height (inches) | Maximum Allowable Load at Slot Face (lbs) | Maximum Column Load Applied at C.G. | | | |
|--------------------------|---|-------------------------------------|--------------|-------------|-------------|
| | | K=0.65 (lbs) | K=0.80 (lbs) | K=1.0 (lbs) | K=1.2 (lbs) |
| 24 | 2,620 | 8,280 | 7,760 | 7,140 | 6,580 |
| 36 | 2,470 | 7,210 | 6,580 | 5,310 | 4,030 |
| 48 | 2,180 | 6,200 | 4,870 | 3,280 | 2,280 |
| 60 | 1,770 | 4,760 | 3,280 | 2,100 | ** |
| 72 | 1,420 | 3,450 | 2,280 | ** | ** |
| 84 | 1,150 | 2,530 | 1,670 | ** | ** |
| 96 | ** | 1,940 | ** | ** | ** |

** KL_r>200

Column loads are for allowable axial loads and must be reduced for eccentric loading.

BEARING LOADS ES400



Resistance to Slip: 1,500 lbs. per bolt when 1/2" ES NS channel nuts are used. Pull Out Strength: 2,000 lbs. per bolt when 1/2" ES NS channel nuts are used.

*Bearing load may govern capacity.

NR - Not Recommended.

This load table is based on a solid channel section.

For concentrated load at center of span, divide uniform load by 2 and multiply corresponding deflection by 0.8.

Loads include weight of channel, which must be deducted.

Loads must be multiplied by the applicable unbraced factor located in the blue column in the chart above.

For Extruded Aluminum Channels, reduce beam load values 38%.