

# WHY USE CURVED STEEL?



Curved steel provides a more modern, unique appearance and adds more dynamic dimension with minimized visual disruptions. Curved steel is more aesthetically appealing and attractive than "built-up" or "welded" sections. Curved steel creates flowing, uninterrupted lines that provide a sense of elegance and fluidity in design. Photo: Rob Korosis

The AISC indicates that the bending process does not adversely affect the strength or structural integrity of steel. When a shape has been curved successfully, the strains the member will experience under actual service conditions will be much smaller than those associated with the curving operation. Modern Steel Construction April 2019: "Bending Basics"



The maximum axial compression in an arch typically occurs under uniformly distributed loads across the full span. This efficient load-bearing mechanism enables the design of lighter structures that maintain structural integrity. Additionally, the inherent stiffness of curved steel elements contributes to the overall stability of structures, reducing the need for supplementary support materials. Steel Construction Institute "Design of Curved Steel"

Curved shapes facilitate smoother transitions and more complex designs; enabling the creation of curved slab edges and unencumbered column-free spaces, providing elegant and cost-effective solutions. No other framing material matches structural steel's capacity to encourage freedom of expression and design creativity. American Institute of Steel Construction- "Design Flexibility"



The AISC acknowledges that curved steel designs can enhance natural lighting in buildings. For instance, the use of curved steel and glass roofs can create expansive atriums that allow ample natural light to penetrate interior spaces, reducing the need for artificial lighting during daylight hours, contributing to overall energy savings. asic.org

Steel weighs half the amount of concrete resulting in a lighter, more sustainable building and less cost. According to the AISC, domestically produced structural steel typically contains between 90% and 100% recycled content. The industry average for recycled content in domestic structural steel is over 90%, the highest of any building framing material. asic.org

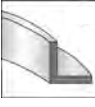



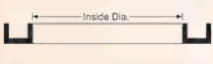


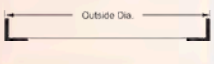





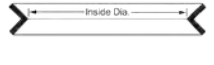





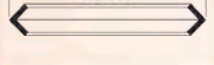
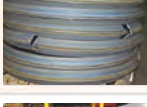









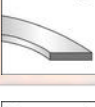
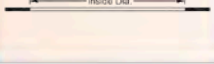


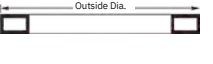

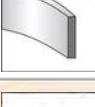



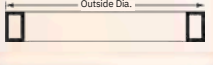

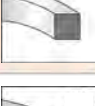



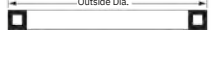
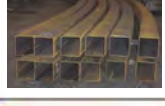
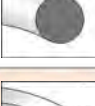



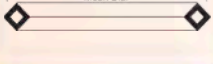

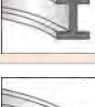
























Curved structures can enhance aerodynamic properties by reducing wind resistance, minimizing turbulence, and decreasing drag. Studies have shown that incorporating curved elements, such as rounded corners, can enhance aerodynamic performance by reducing drag and mitigating wind-induced vibrations. arxiv.org

CREATIVE-EFFICIENT-FUNCTIONAL-VERSATILE-RECYCLEABLE



# CAPACITIES CHART

Section	3D Image	2D Image	Photo	Capacities	Section	3D Image	2D Image	Photo	Capacities
Angle Leg Out				All sizes through 8" x 8" x 11/4"	Channel the Hard Way (X-X Axis)				All Mill Produced Sizes
Angle Leg In				All sizes through 8" x 8" x 11/4"	Rail Ball In				All sizes up to approximately 175#
Angle Heel In				All sizes through 8" x 8" x 11/4"	Rail Ball Out				All sizes up to approximately 175#
Angle Heel Out				All sizes through 8" x 8" x 11/4"	Rail Ball Up				All sizes up to approximately 175#
Angle Heel Up				All sizes through 8" x 8" x 11/4"	Round Pipe & Tube				Roll/Cold Bending: 3/16" OD through 28" OD Induction/Hot Bending: 6" OD through 28" OD Rotary Draw/Mandrel Bending: 1/2" OD through 6" Pipe (Sch80)
Flat Bar the Hard Way				Any thickness and size through 2-1/2" x 16" (section is dependent on thickness to width)	Rect. Tube the Hard Way				20" x 12" x .625" (Maximum mill produced size-bending capacity is greater)
Plate/Flat Bar the Easy Way				*Plate: 2-1/2" plate up to 10' in width *Flat Bar the Easy Way: Any thickness and size through 4" x 22" (section is dependent on thickness to width)	Rect. Tube the Easy Way				20" x 12" x .625" (Maximum mill produced size-bending capacity is greater)
Square Bar				All Mill Produced Sizes	Square Tube				16" x 16" x .625" (Maximum mill produced size-bending capacity is greater)
Round Bar				All mill produced sizes	Square Tube Diagonally				16" x 16" x .625" (Maximum mill produced size-bending capacity is greater)
Beam the Easy Way (Y-Y Axis)				S3/W4 through W33 x 241#, W36 x 210# and W40 x 183#	Tee Stem In				All sizes through 12" Stems (weight per foot maximums would need to be calculated based on WF origin)
Beam the Hard Way (X-X Axis)				S3/W4 through W36 x 230#	Tee Stem Out				All sizes through 12" Stems (weight per foot maximums would need to be calculated based on WF origin)
Channel Flanges In				All mill produced sizes	Tee Stem Up				All sizes through 12" Stems (weight per foot maximums would need to be calculated based on WF origin)
Channel Flanges Out				All mill produced sizes	Bulb Flat		Bulb Stem-In or Stem Out		All mill sizes produced up to 430 mm x 20 mm (16.93" wide x .787" thick)