TOP 10 REASONS TO USE HSS IN YOUR NEXT DESIGN

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Hollow Structural Sections (HSS) are an extremely versatile, efficient, and economic choice when designing a steel structure. Available domestically from Zekelman's Atlas Tube, there are a lot of good reasons to use HSS. Here are 10 of our favorites:

10 WIDE RANGE OF SIZES & SHAPES

There are **1,160 different HSS sizes** listed in the 16th Edition of the AISC Steel Construction Manual. HSS squares range in size from 0.5" x 0.5" to 22" x 22", rectangles from 2" x 1" to 34" x 10", and rounds from 1.66" OD to 28" OD. All three shapes are now available domestically from Atlas Tube with a wall thickness of up to 1.0".

9 NO WEBS

Beam connections to HSS columns are simpler and more economical than those to wide-flange. While welding is the most commonly known way to make HSS connections, there are also bolted connection products on the market that work in "blind" connections, including **Shuriken™ by Atlas Tube**, Lindapter Hollo Bolt, and the Blindbolt.

8 HIGHER STRENGTH

Because square HSS have a strong axis, they have a higher strength-to-weight ratio in compression compared to wide-flange sections. HSS used in column applications, especially with long unbraced lengths, utilize less steel than wide-flange sections to carry the same load, offering cost savings and **reduced embodied carbon**.

7 RESISTING COMBINED LOADING

Because the closed shape of HSS puts material at the perimeter, they are very efficient at resisting biaxial bending. This also **enhances the strength** in column and long-span applications where lateral torsional buckling is common.

6 IDEAL FOR RESILIENCY & ACCIDENTAL LOADING

HSS' symmetry makes it ideal in applications that might be subject to accidental or blast loads in which the direction of the load is unknown. To further harden and protect a structure, HSS composite columns can be used to increase load capacity and resilience.

5 TORSION RESISTANCE

The torsional constant used to calculate a member's resistance to torsion is up to **200 times greater** for HSS than for an open section. Any time a member is subjected to eccentric loads that induce torsion, including curved applications, HSS is the ideal choice.

4 SMALLER FOOTPRINT

Due to its efficient shape, HSS used in column applications have a smaller footprint than a wide flange shape of equal axial loading capacity. This allows for more usable floor area within a building, helping to achieve the architect's vision for a more **open and clean design**.

3 LESS COATING

HSS, compared to open sections of equal capacity, have a smaller perimeter and surface area, requiring less material for coatings or fireproofing and thus reducing costs. Additionally, the absence of reentrant corners in HSS simplifies coating application, **enhancing durability** through more consistent thickness at the corners.

2 AVAILABILITY

HSS is stocked and readily available nationwide. For large projects, fabricators and service centers can work directly with HSS producers such as Atlas Tube to order custom lengths, minimizing waste for a **greener build**.

1 VISUAL APPEAL

The main reason HSS are so beloved by architects is **because they look great** when used in exposed structures. If you look at most of the award-winning structures from recent years, they all have one thing in common: the use of HSS.

These are just the top 10 of many benefits of HSS that I could share. But you don't have to take my word for it. We encourage you to work the numbers yourself in **Atlas Tube's Axial Load Calculator**. You might just find that HSS is the perfect choice for your next project.