

# 10 REASONS TO **CHOOSE HSS**

## **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.

## **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**.

## **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.

## **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**.

## **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.

## **6 IDEAL FOR RESILIENCY & ACCIDENTAL LOADING**

HSS' **symmetry** makes it ideal in applications that might be subject to accidental or blastloads 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.

## **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.

## **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 wideflange sections to carry the same load, offering cost savings and reduced embodied carbon.

## **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.

## **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".

Visit [atlastube.com](https://atlastube.com) to learn more about the benefits of HSS.