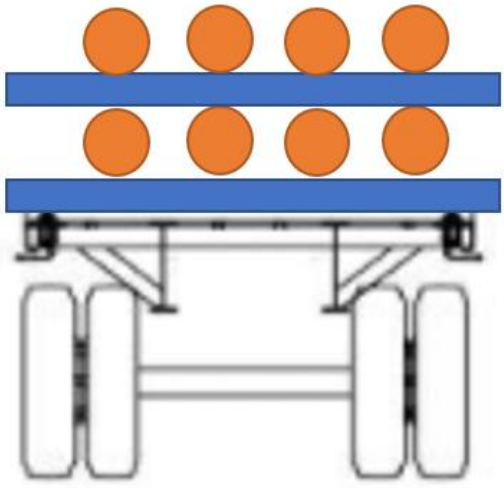
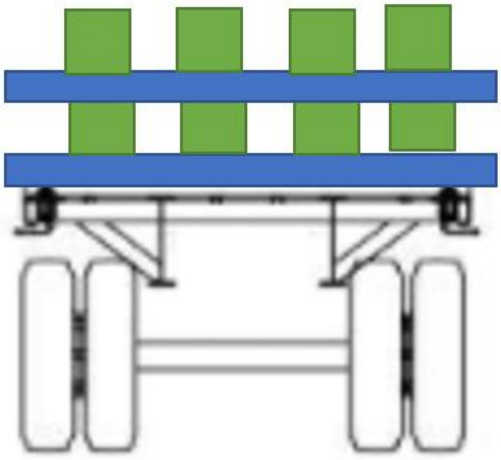
Safe Transportation of Bracing Members

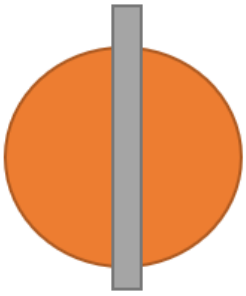
Traditionally Circular Hollow Sections have been the go-to member for strut bracings within buildings as its shape offers the optimum possible strength to weight ratio for a typical member in compression. Whilst the CHS is ideal geometrically for strength it can be difficult to fabricate the ends square to each other and it can pose a significant hazard during loading, transportation and offloading due to its circular nature and can be prone to rolling if not correctly strapped down. At some point the straps need to be released which is where the risk of rolling occurs as well as on the work bench.



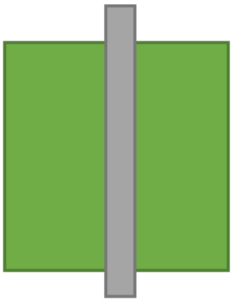
CHS Transportation



SHS Transportation



Typical CHS End



Typical SHS End

Design Example

A 168x8CHS Strut 7m can carry a load of 400kN & Weighs 31.6kg/m
A 150x150x8SHS Strut 7m can carry a load of 434kN & weighs 33.9kg/m
7% increase in weight but has 8.5% increase in capacity

Key Points

1. SHS Members sit flat on the wagon or work bench.
2. SHS Members are easier to fabricate than CHS.
3. There will be a small increase in weight, but this can be offset by the safety benefits
4. There are less errors with SHS bracing.
5. SHS dramatically reduces the transportation risks during loading and off-loading

For More Information Contact Chris Achilles (Severfield SN&I) 01204 558500