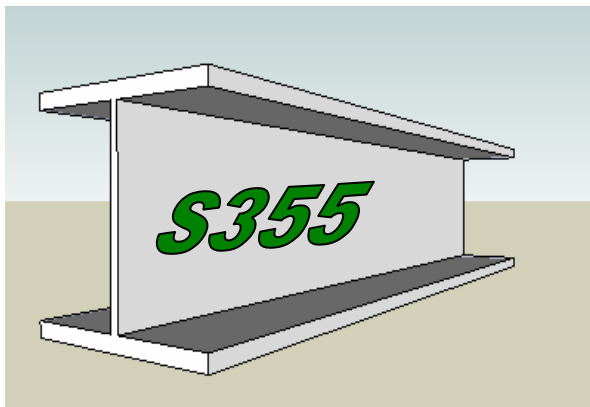


# Reduce CO2 with Higher Grade Steel.

Many steel stock holders now supply only S355 grade steel for the majority of section sizes as standard. Only the smaller sections can now be sourced at S275 from stock holders. Even though S355 has become the “standard grade” for the fabrication of structural steel, design engineers don't seem to have followed suit and are still designing to S275. This is a waste as most of the members in the structure will be sourced at S355.

## Advantages of S355

1. S355 is stronger than S275 therefore it means that less steel could be used.
2. Less steel means smaller Carbon foot print. On average 0.76 Tonnes of CO2 is produced for every 1.0 Tonne of Steel (1.6 Tonne for New Steel and 0.4 Tonne for Recycled Steel).
3. The cost of S355 is around the same as S275 or sometimes cheaper.
4. Weight savings can be between 10-20%.
5. Smaller beam sizes can mean more space for services or a lower building.



## Additional Key Points

1. Grade S275 is becoming scarce through stock holder driven market forces.
2. S355 is stronger than S275 but is more brittle. So the correct sub grade should be specified (JR, J0 and J2).
3. The Young's Modulus for S275 and S355 is the same so there are no deflection benefits regardless.
4. Correct welding electrodes must be used (S355 = E42, not E35).
5. S355 Design rules differ from S275 (Ke value etc).
6. Designing to S355 makes both economic and environmental sense.

**For further information contact Paul Airey (Peers) – Tel 01204 558500.**