

Trapezoidal sections

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TRAPEZOIDAL SECTIONS

Use of stiffeners in the main supports of steel bridges, especially in orthotropic decks, improves the overall economy of superstructures. Stiffeners allow optimising structures which means more cost-effective bridge structures.

Trapezoidal section are very effective way to brace the steel plate structures. The closed cross-section forms high bending and torsion resistant structures. With proper engineering long-lasting fatigue resistance deck structures can be executed.

SSAB's trapezoidal sections are customized for each application. We can manufacture trapezoidal sections to desired length. The manufacturing method - roll forming - doesn't limit the length. Transportation gives some limits for the maximum lengths however usually up to 21 m long stiffeners can be transported without any problems. A dimensionally accurate trapezoidal section forms a closed cross-section with the deck which makes surface treatment easy. High accuracy level means also easier and less welding at the engineering works which translates into clear savings in production costs.

Benefits to the customer

- Bridge superstructures of better overall economy
- Long lengths, up to 21 m, no welding joints
- Good accuracy in gross-sectional dimensions
- Good straightness
- Closed ribs → easy surface treatment, less costs

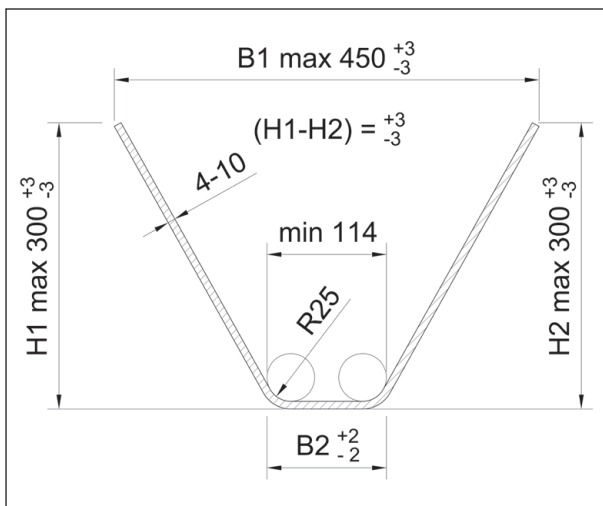
STEEL GRADES AND DELIVERY CONDITIONS

- Standard steel grade S355J2C+N acc. to EN10025-2
- Other steel grades according to standards:
 - EN 10025-3, normalised rolled weldable fine grain structural steels
 - EN 10025-4, thermomechanically rolled weldable fine grain structural steels
 - EN 10149-2, thermomechanically rolled high yield strength steels for cold forming
 - Other steel grades on request
- Material certificate EN 10204-3.1 (3.2 available on request)
- DB certificate acc. to BN 918002-02 available on request
- Technical delivery conditions
 - EN 10162 cold rolled steel sections (when applicable)
 - Technical delivery conditions recommended to be agreed case by case



Production range and tolerances

- Wall thicknesses 4-10 mm, typical 6-8 mm
- Dimensions according adjacent picture
 - max strip width 820 mm
 - inner radius R25 or R15
 - max height 300 mm
- Lengths from production:
 - roll forming doesn't limit the length of the profile
 - typical length 10-13,5 m

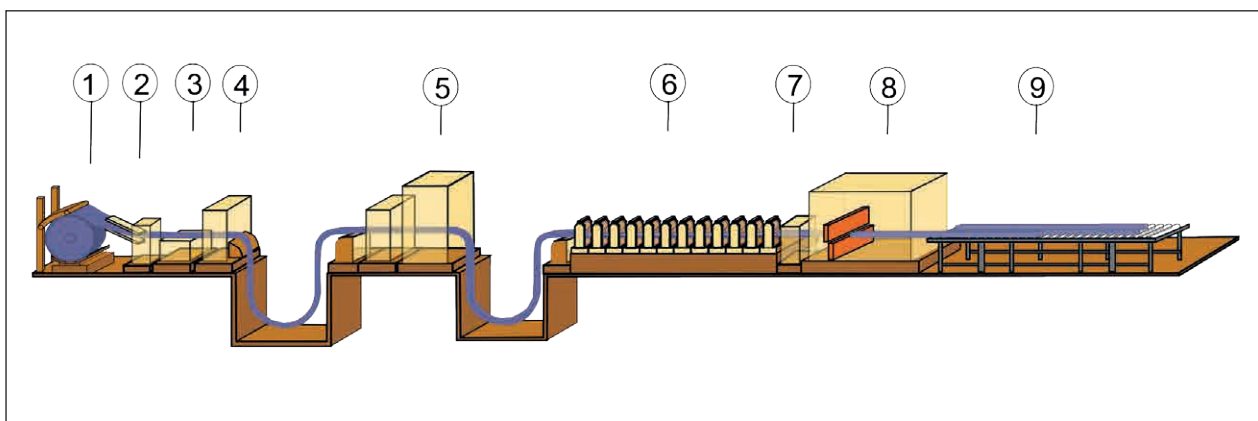


Technical delivery conditions

- Vertical straightness: 2 mm/m
- Horizontal straightness: 2 mm/m
- Torsion: so small that the section will be straightened by its own weight when putting on a fl at base
- Surface condition: Eventual traces and scratches from the forming rolls may appear as long as they do not exceed the permitted thickness tolerance
- All measurements to verify the cross-sectional shape shall be carried out at least 500 mm from the ends of the cold-rolled sections (EN 10162)

Roll forming line of trapezoidal sections

1. Uncoiler
2. Coil opener
3. Splicing
4. Levelling
5. Punching (not for trapezoidal section)
6. Profiling units
7. Straightening
8. Cutting
9. Bundling



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