

# Steering

## Product information | Technical data sheet

Jansen Steel Tubes and Mubea Precision Steel Tubes produce welded and welded-drawn precision steel tubes and profiles for steering systems made of standard materials as well as high-tensile materials.

Quality is paramount in steering applications and construction. Tight tolerances and very good reforming properties of the tubes ensure smooth component construction.

The use of modern high-tensile materials allows for weight savings by reducing the wall thickness while still maintaining the component's strength.



## Tube requirements

|  |
|--|
| Excellent formability                  |
| High torsional strength and durability |
| Excellent welding properties           |
| High geometrical accuracy              |
| Excellent surface condition            |

## Material properties

|   |
|---|
| High torsional strength and fatigue strength  |
| Excellent reforming properties                |
| Homogeneous strength properties and ductility |
| Excellently suitable for welding              |
| Potential to reduce wall thickness            |

## Structure

|   |
|---|
| Homogeneous, fine-grain structure in weld seam and basic material       |
| Minimised surface decarburisation of inner and outer surfaces (< 50 µm) |
| Very good weld seam quality   |
| Very good reforming properties  |

## Geometry

|   |
|---|
| Minimised fluctuations in wall thickness and inner/outer diameter                     |
| Minimised deviations in straightness  |
| Minimised deviations in concentricity and axial run-out                               |
| Minimised eccentricity  |
| Specific tube end processing: sawn/brushed; chamfered, completely processed/chamfered |

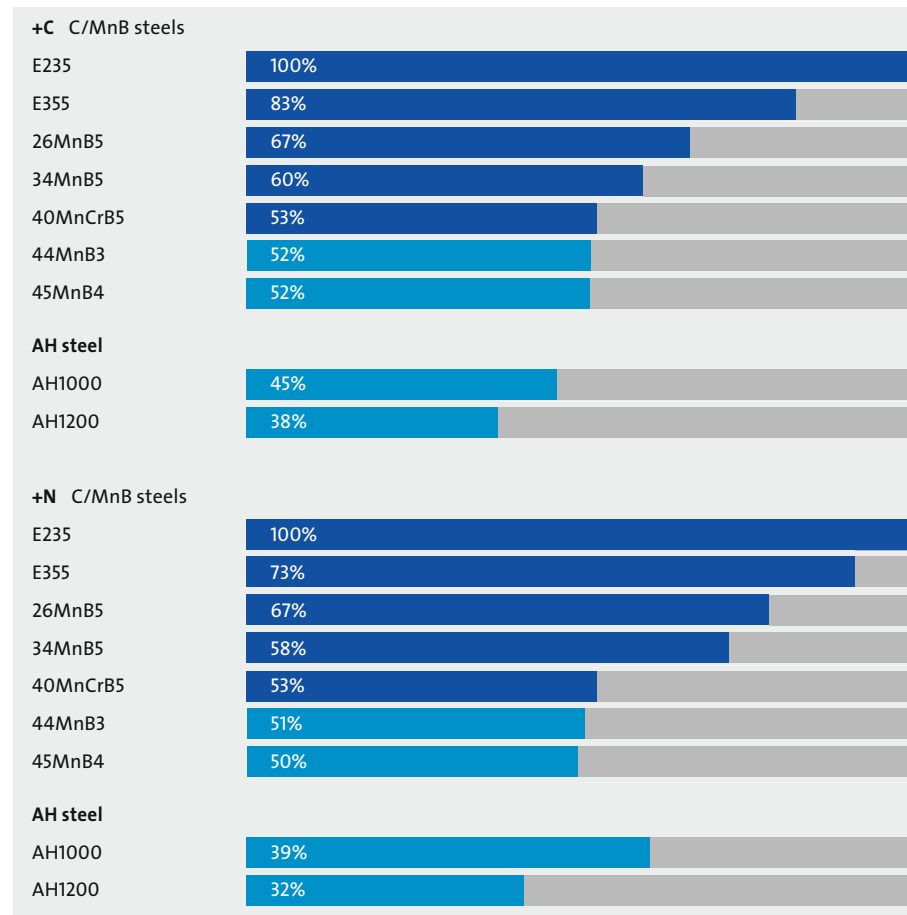
## Surface

|  |
|--|
| Excellent surface condition  |
| Minimised surface flaws (adhesions, scratches, dents, etc.)              |
| Minimised corrosion protection, optionally specific corrosion protection |

## Materials & dimensions

| Application       | Tube standard | Steel grades   | Delivery condition | Dimensions range mm          |
|-------------------|---------------|--|--------------------|------------------------------|
| Steering shafts   | ✓ EN 10305-2  | ✓ E235<br>✓ E355<br>✓ 26MnB5<br>✓ 34MnB5<br>✓ 40MnCrB5<br>* 44MnB3<br>* 45MnB4 | ✓ +C<br>✓ +N       | ✓ OD 20 - 35<br>✓ WT 1.5 - 3 |
| Steering spindles |               | * AH1000<br>* AH1200   |                    | ✓ OD 25 - 40<br>✓ WT 2 - 4   |

## Extract from achievable weight-savings



✓ Series production  
\* In validation

AH: air hardening

OD: outside diameter  
WT: wall thickness