Mubea
PRECISION STEEL TUBES

Reinforcement tube

Product information | Technical data sheet

Mubea Precision Steel Tubes produce welded precision steel tubes and profiles used as structural reinforcements in the automotive industry.

High-tensile materials are used for the tructural reinforcement tubes. Applications within this automotive industry segment are very sensitive to quality and component failure in the event of an undesired deformation of the component may have serious consequences. The tight production tolerances guarantee efficient and thus cost-effective tube processing during component production. The use of new modern air-hardening materials allows a significant reduction of the work involved by eliminating the tempering process, and thus a significant reduction in costs.

Tube requirements

Excellent formability	
High levels of fatigue strength	
High levels of strength and hardness according to Q+T	
excellent surface conditions	

Material properties

High levels of fatigue strength
Excellent reforming properties
Excellent hardening properties
Homogeneous strength properties and ductility

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

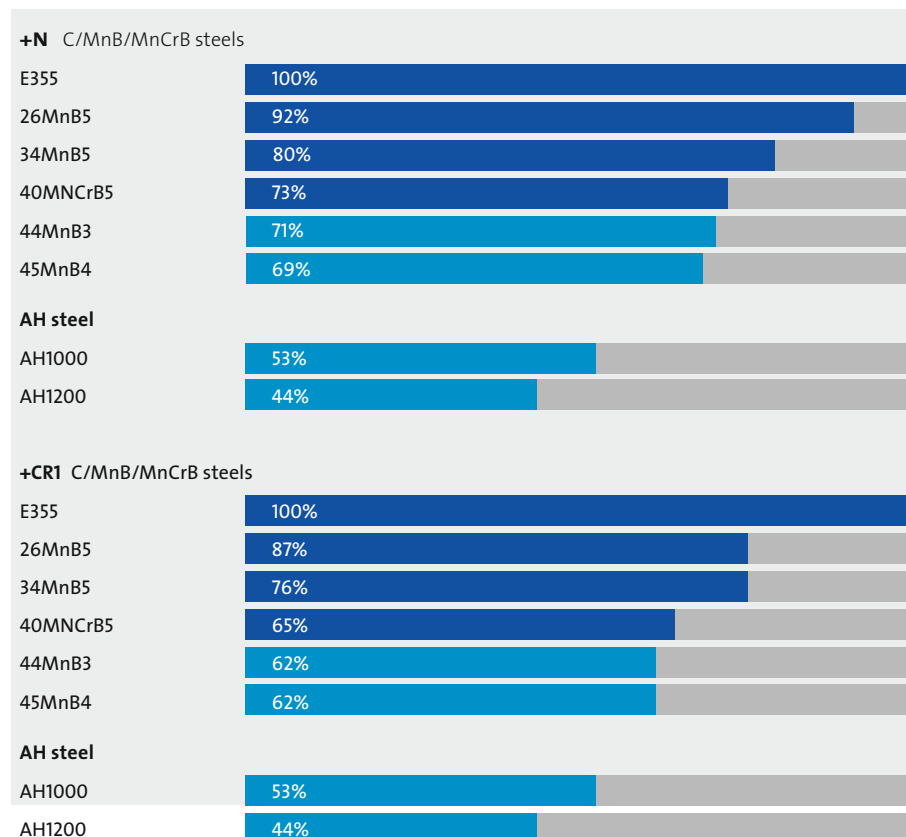| |
|---|
| Minimised fluctuations in wall thickness and inner/outer diameter |
| Minimised deviations in concentricity and axial run-out |
| Minimised eccentricity |
| Tube end processing: sawn/brushed; chamfered |

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
Reinforcement tube	✔ EN 10305-2 ✔ EN 10305-3	✔ E355 ✔ 26MnB55 ✔ 34MnB5 ✔ 40MnCrB5 ✱ 44MnB3 ✱ 45MnB4 ✔ 5700 ✱ AH1000 ✱ AH1200 ✱ OP1000 ✱ CP800	✔ +N ✔ +CR1	✔ AD 35 - 80 ✔ WD 2 - 6.5

Extract from achievable weight-savings

+N C/MnB/MnCrB steels

E355	100%
26MnB5	92%
34MnB5	80%
40MNCrB5	73%
44MnB3	71%
45MnB4	69%

AH steel

AH1000	53%
AH1200	44%

+CR1 C/MnB/MnCrB steels

E355	100%
26MnB5	87%
34MnB5	76%
40MNCrB5	65%
44MnB3	62%
45MnB4	62%

AH steel

AH1000	53%
AH1200	44%

✔ ■ Series production
✱ ■ in validation

AH: air hardening
TDT: Tailor Drawn Tube
OD: ø outside diameter
WT: wall thickness