Drive shaft
monobloc

Product information | Technical data sheet

Jansen Steel Tubes and Mubea Precision Steel Tubes produce welded-drawn precision steel tubes made of high-tensile materials for one-part drive shafts.

The tubes for the one-part drive shafts (monobloc) are cold-formed during manufacturing. For this reason, manufacturers of monobloc drive shafts greatly value identical reshaping properties and high levels of dimensional stability in the delivery condition of the tubes. Additionally, after inductive hardening, high strength values with low levels of surface decarburisation are required. The trend towards light-weight design increasingly demands high-strength materials, which allow for weight reduction with comparable physical properties.

Tube requirements

Very good formability

High torsional strength and durability

High geometrical accuracy
(eccentricity, roundness)

Excellent surface condition

Material properties

High torsional strength and fatigue strength

Excellent reforming properties

Homogeneous strength properties
and ductility

Excellent hardening properties

Structure

Homogeneous, fine-grain structure
in weld seam and basic material

Minimised surface decarburisation of
inner and outer surfaces (< 100 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

Specific tube end processing:
sawn/brushed; chamfered,
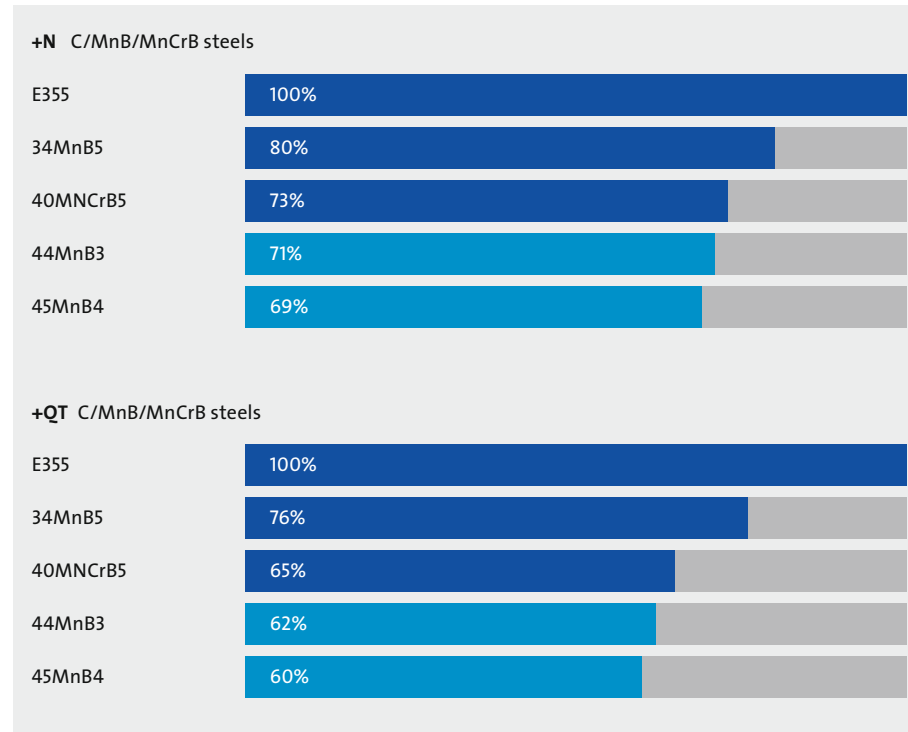completely processed/chamfered

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
Drive shaft (Monobloc)	✔ EN 10305-2	✔ E355 ✔ 34MnB5 ✔ 40MnCrB5 ✱ 44MnB3 ✱ 45MnB4	✔ +N	✔ OD 25 - 50 ✔ WT 2 - 6,5

Extract from achievable weight-savings

+N C/MnB/MnCrB steels

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

+QT C/MnB/MnCrB steels

E355	100%
34MnB5	76%
40MNCrB5	65%
44MnB3	62%
45MnB4	60%

✔ ■ Series production
✱ ■ In validation

OD: outside diameter
WT: wall thickness