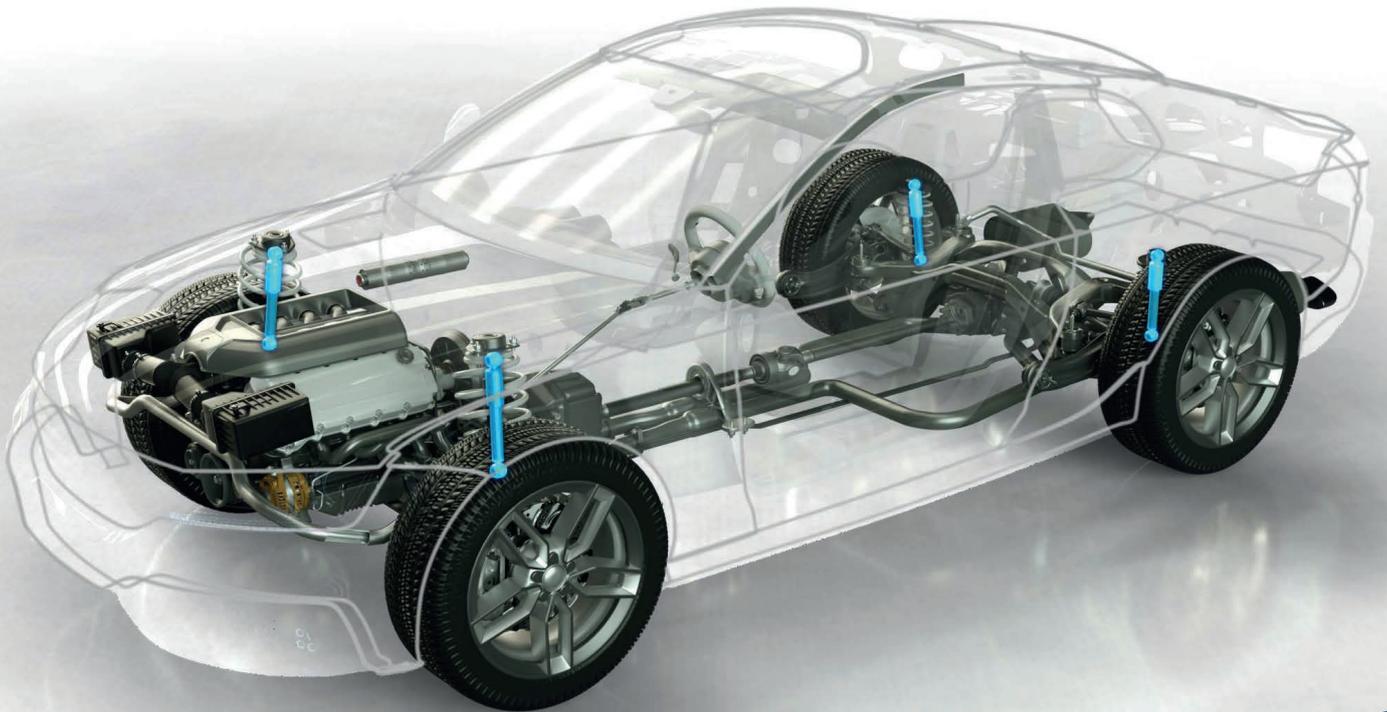# JANSEN

Jansen produces precision steel tubes
for piston rods in shock absorbers.

Piston rods

Product information | Technical data sheet

There are a variety of demands on tubes for piston rods. Processing and refining the outer surface requires excellent tube surface qualities. Very good, homogeneous reshaping properties are required for the rolling of the thread. Stringent tolerances ensure the efficient production of the piston rods. High levels of material purity guarantee the fatigue strength of shock absorbers. The increasing demand for light-weight design can be met by using high-tensile materials.

Tube requirements

High strength values
(elongation at break, tensile strength)

Excellent surface condition

High levels of fatigue strength

Very good geometrical accuracy

Good formability
(sufficient elongation)

Material properties

High strength (YS, TS) and
fatigue strength

Homogeneous strength properties
and ductility

Potential to reduce wall thickness

Structure

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

Minimised surface decarburisation of
inner and outer surfaces (< 100 µm)

Excellent weld seam quality

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

Surface

Excellent surface condition

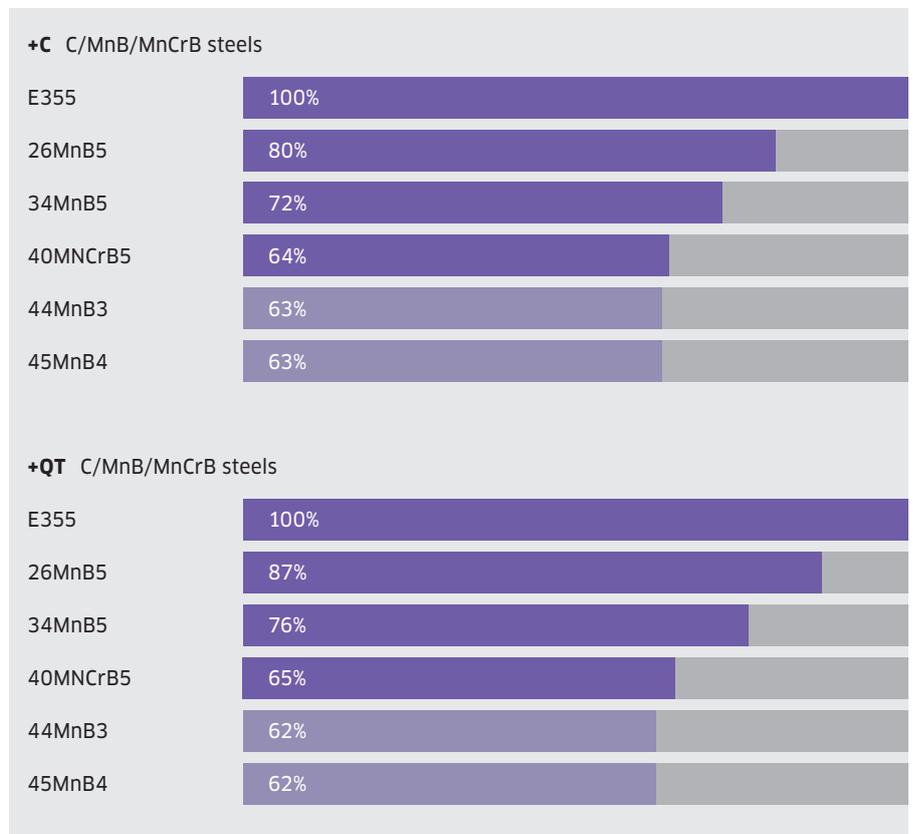Minimised surface flaws
(adhesions, scratches, dents, etc.)

Increased surface hardness thanks to
surface coatings/hardening

Minimised corrosion protection,
optionally specific corrosion protection

Materials & dimensions

Application	Tube standard	Steel grades	Delivery condition	Dimensions range mm
Piston rods (Car)	✔ EN 10305-2	✔ E355 ✔ 26MnB55 ✔ 34MnB5 ✔ 40MnCrB5 ✷ 44MnB3 ✷ 45MnB4	✔ +C	✔ OD 16 – 4 ✔ WT 2 – 5.5

Extract from achievable weight-savings

+C C/MnB/MnCrB steels

E355	100%
26MnB5	80%
34MnB5	72%
40MNCrB5	64%
44MnB3	63%
45MnB4	63%

+QT C/MnB/MnCrB steels

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

✔ ■ Series production at Jansen
✷ ■ In validation at Jansen

OD: outside diameter
WT: wall thickness