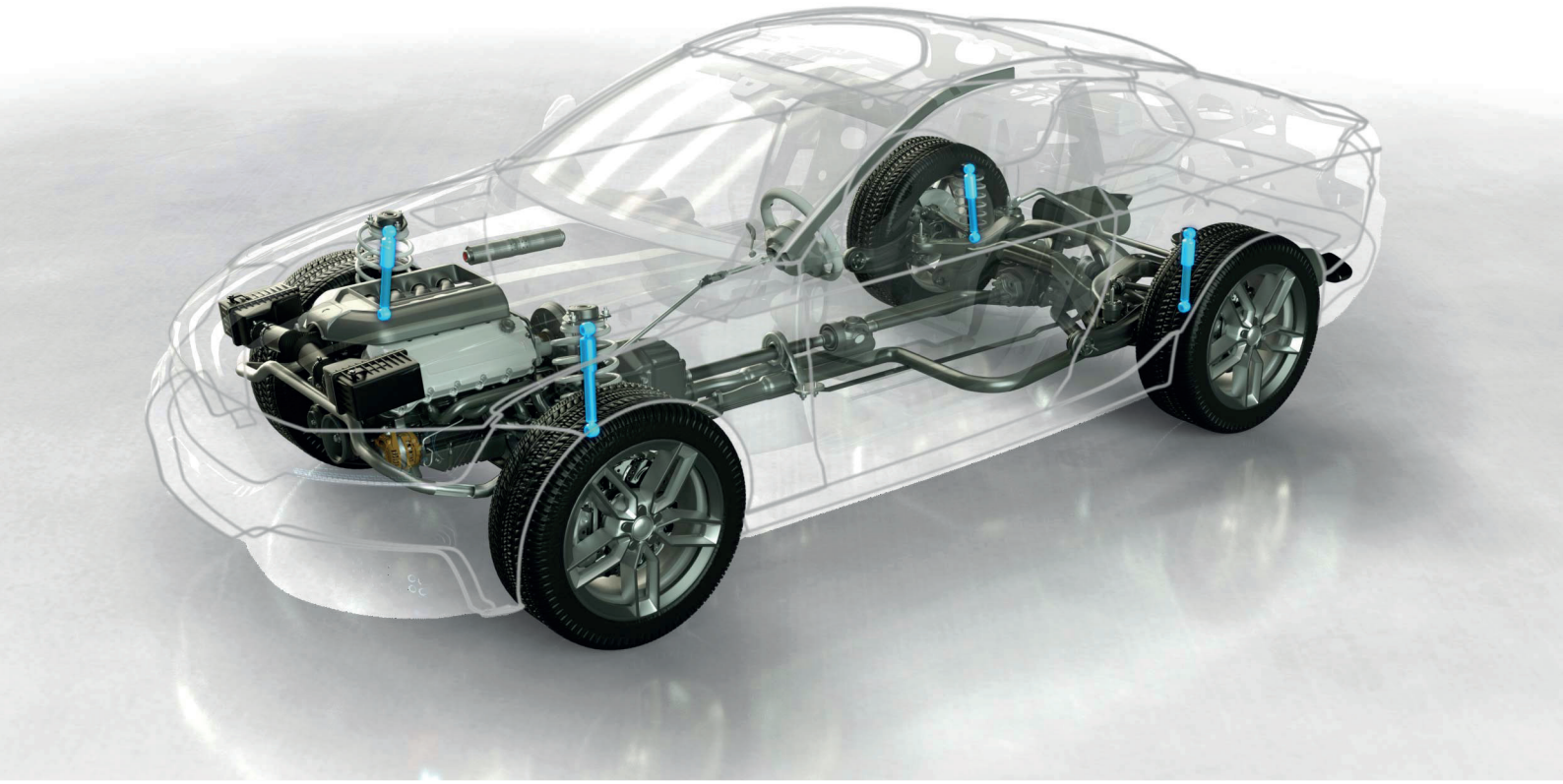
Piston rods

Mubea
PRECISION STEEL TUBES



Product information | Technical data sheet

Mubea Precision Steel Tubes produce precision steel tubes for piston rods in shock absorbers.

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 (< 50 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

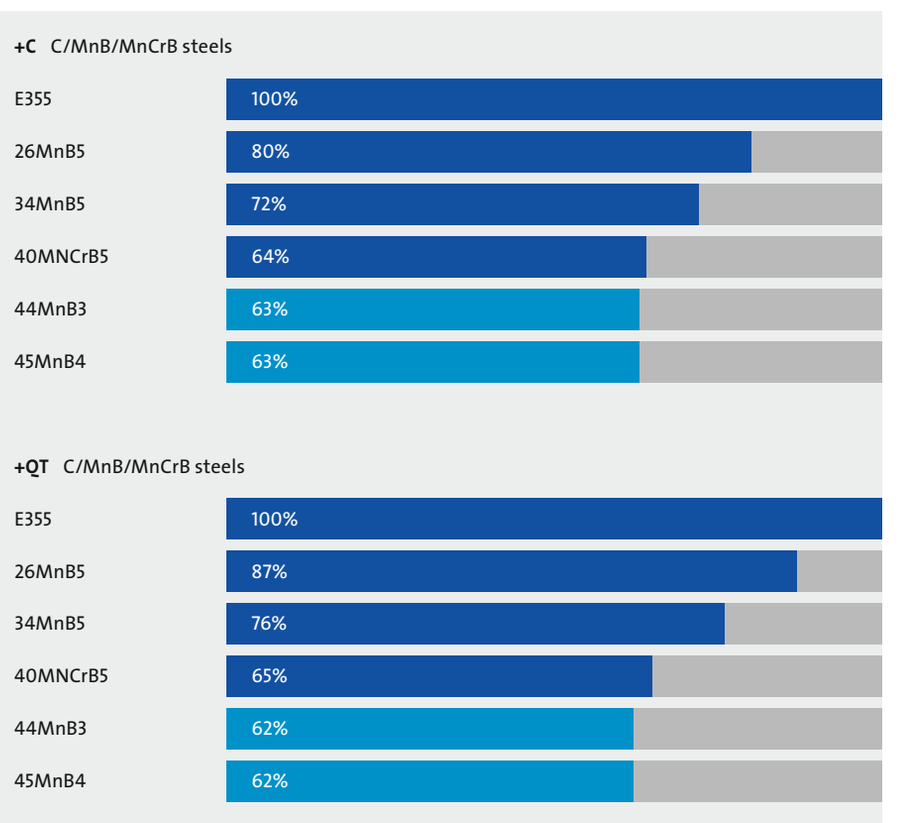
Surface

- 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 - 85 ✔ WT 2 - 5.5

Extract from achievable weight-savings



✔ ■ Series production
✱ ■ In validation

OD: outside diameter
WT: wall thickness