

Mubea
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Induction Tempered Steel Wire

Product information | Technical data sheet

Mubea produces cold drawn, inductively tempered steel wire to meet all industry and Automotive OEM quality standards. The Mubea robust wire is ideal for high stress and lightweight applications.

For North American manufacturers of cold formed compression, tension and torsion springs, Mubea offers a diversified portfolio of wire diameters and tensile strength classes. The spring wire is produced using a highly efficient coil-to-coil operation for cold drawing and inductive heat treatment of the wire. Precise wire sizing, 100% in-line surface inspection, and control of mechanical properties ensure the highest level of quality meeting all major of Industry and Automotive OEM standards. High degree of flexibility in coil weight, specialized technical support, and short production lead-times allow Mubea to satisfy stringent customer expectations.

Wire Requirements

High strength values
(Tensile Strength, elongation, reduction of area)

High geometrical accuracy

Excellent surface condition

Defect free raw material

Structure and Material Properties

Homogeneous, fine-grain structure

Minimized surface decarburization (<100 µm)

Tempered martensite microstructure

Clean steel from released raw material sources

Tight tensile strength control, ±25 MPa
(±3.7 ksi)

Geometry

Minimized fluctuations wire diameter and Roundness

Tight diameter control, ±0.05 mm (±0.004 in)

Surface

Excellent surface condition ideal for high stress applications

Minimized surface flaws with 100% in-line inspection by Eddy current

Optional 2-step surface polishing process available

In-line application of rust preventative oil

Applications

Automotive compression springs (cars, trucks, off-road vehicles)

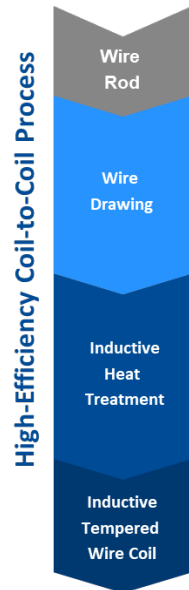
Tension springs for various industrial applications (closures, automotive components)

Torsion springs (garage doors, pre-tensioning components, automotive components)

Materials & Dimensions

Application	Technical Standard	Steel Grades	Wire Size Range	Tensile Strength	Delivery Condition
Compression / Tension / Torsion Spring	TS-ALL-CS-DEV-15 ASTM A401 ASTM A1000 ASTM A229 (class I & II)	SAE 9254 (DIN 54SiCr6) (JIS SUP12)	Ø Diameter 5.5 – 23.0 mm (0.217 – 0.905")	Tensile Class 1,500 – 2,100 MPa (317 -304 ksi)	Bound coils Weight 1.2 – 2.9 MT (2,600 – 6,400 lbs) Coil ID 1.2 – 1.8 mm (47 – 71")
		SAE 1065 High Carbon	Ø Diameter 5.0 – 16.0 mm (0.197 – 0.630")	Tensile Class 1,300 – 1500 MPa (188 -217 ksi)	

Technology and Competence



- › Worldwide Raw Material Sources available in Compliance with Mubea's High Quality Standards
- › Optimized Rod Sizes and Coil Weight for Highly Efficient Process
- › Mechanical Descaling Wire Rod
- › 100% in-line Wire Surface Inspection (Eddy Current Technology – Stationary Unit)
- › Defect Repair by Manual Grinding prior Drawing
- › Single-Step Dry Drawing → Drawn-to-Size with Tightest Tolerances
- › Inductive Austenitizing & Tempering with Water Quenching
- › Fine-Grained Tempered Martensite for Cold Forming & High Stress Application
- › 100% in-line Wire Surface Inspection (Eddy Current Technology – Rotary Unit)
- › Defect Marking (Label)
- › Intensive Quality Check → Start and End of Coil
- › Stable Mechanical Properties along entire Coil
- › Protective Oil Layer for Storage and Transportation

