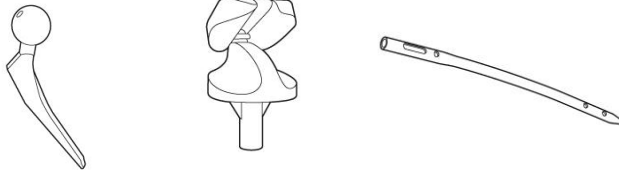


Implant | Co-Based Alloys

Medical Alloys



Zapp certified according to ISO 9001



Implant materials – Cobalt-based alloys

The special alloys from Medical Alloys offer the highest strengths and wear resistance in combination with very good corrosion resistance and can be polished to a high gloss. They also feature high bio-compatibility.

Typical application areas include joint prosthetics and prosthetic anchoring systems, surgical implants, dental applications, pacemaker wires, stents, cerclage wires, bone nails and bone drills.

Outstanding quality characteristics	raw material from qualified production sources
	outstanding slag purity through vacuum melting with subsequent remelting
	microstructures that comply with standards
	high corrosion resistance
	biocompatibility
	amagnetic properties (MRI compatibility) *
	high hardness and wear resistance
Typical applications	stents, heart valve components, surgical implants, cerclage wire
	joint implants, shafts, sockets, ball-heads, artificial heart valves
	intramedullary nails, catheters, prosthetic anchoring systems, pacemakers
Delivery forms / finishes	
Tolerances	ISO tolerance fields IT 11 – IT 5 for wire and bar
	special tolerances on request
Testing	surface quality through eddy current testing according to EN 10277-1 as well as testing for inner irregularities using ultrasound from Ø 6.0 mm possible (by agreement in case of appropriate product forms)

Wire	Ø 0.5 mm – 12.0 mm
	in coils, on spools
	polished, bright and flex-drawn
Bar	Ø 1.0 mm – 75.0 mm
	standard lengths 2,000 and 3,000 mm, special lengths on request
	drawn, annealed, ground, polished
	cut to length, chamfered, face chamfered, pointed, centered
	degreased, labeled
Profile	on request
Plate and pipe	tubes on request

* MRI: Magnetic Resonance Imaging

Implant materials – Cobalt-based alloys

Ergste® 9.9035 (UNS R30035)

Specific material properties	extra high tensile strength and ductility via age-hardening
	outstanding corrosion resistance, especially against crevice and stress-crack corrosion
Typical analytical components (wt.%)	Ni: 35.0; Cr: 20.0; Mo: 10.0; Co: rest
Relevant standards	ASTM F562; ISO 5832-6
Tensile strength	annealed > 800 MPa
	cold finished > 1000 MPa
	highly finished > 1200 MPa
	extreme cold finished and tempered > 2000 MPa

Ergste® 2.4964HL (UNS R30605)

Specific material properties	very good combination of high strength, ductility and high corrosion resistance
	can be polished to a high gloss
	high wear resistance
Typical analytical components (wt.%)	Cr: 20.0; W: 15.0; Ni: 10.0; Co: rest
Relevant standards	ASTM F90; ISO 5832-5
Tensile strength	annealed > 860 MPa
	cold finished > 1100 MPa
	extreme cold finished > 1700 MPa

Ergiloy® 9.9135HL (UNS S31537)

Specific material properties	highest levels of corrosion resistance, biocompatibility and fatigue strength
	can be polished to a high gloss
	excellent wear resistance
Typical analytical components (wt.%)	Cr: 28.0; Mo: 6.0; Co: rest
Relevant standards	ASTM F1537, ISO 5832-12 Alloy 1
Tensile strength	annealed > 900 MPa
	hot-worked, non annealed > 1000 MPa
	thermomechanically produced > 1200 MPa

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For further information about our products and locations, please refer to our image brochure or consult our website at www.zapp.com.

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