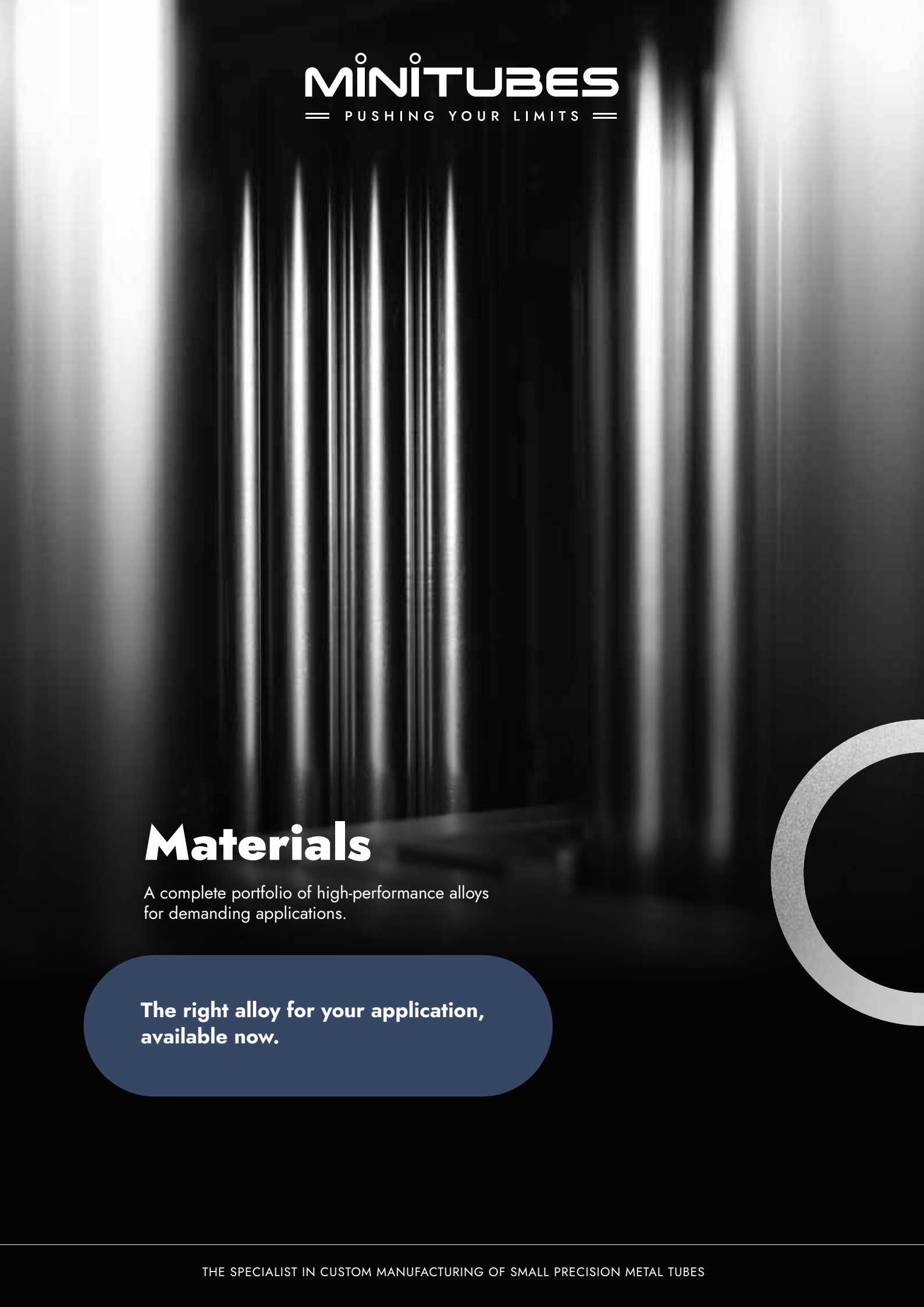


MINITUBES

PUSHING YOUR LIMITS

Materials

A complete portfolio of high-performance alloys for demanding applications.

The right alloy for your application, available now.

MATERIAL COMPARISON TABLE

Every family answers a specific set of requirements. Our expertise spans the full spectrum — from standard alloys to the rarest materials. Mechanical properties are indicative and vary with the delivery condition (annealed, half-hard, hard).

Alloy	Main standard	Condition	UTS	Yield	Elong.	Applications
Cobalt-chrome alloys						
L605 Twice as strong as stainless steel at equal ductility — thinner walls, better deliverability. Improved radiographic visibility thanks to its tungsten content (density: 9.3 g/cm³ / 0.336 lb/in³). **Chemical composition:** cobalt 51% — chromium 20% — tungsten 15% — nickel 10%.	UNS R30605 ASTM F90 ISO 5832-5	Annealed	1100 MPa (160 ksi)	620 MPa (90 ksi)	45%	Stents, cardiac components
		Cold Worked	1600 MPa (232 ksi)	1100 MPa (160 ksi)	10%	
MP35N / MP35N LT 50% stronger than stainless steel in the annealed condition, with similar ductility — excellent corrosion resistance. Ultra-high tensile properties are reached through cold working and aging (high corrosion resistance). Improved fatigue properties with high-purity MP35N LT **Chemical composition:** nickel 35% — cobalt 35% — chromium 20% — molybdenum 10%.	UNS R30035 ASTM F562 ISO 5832-6	Annealed	980 MPa (142 ksi)	540 MPa (78 ksi)	55%	Heart valves, endoscope shafts, chromatography components
		Cold Worked	1400 MPa (203 ksi)	1050 MPa (152 ksi)	10%	
		Cold worked & aged	1750 MPa (254 ksi)	1500 MPa (218 ksi)	3%	
Phynox / Elgiloy / Conichrome Exceptional mechanical, corrosion and fatigue resistance. The reference for high-stiffness and spring-effect applications. **Chemical composition:** cobalt 40% — chromium 20% — nickel 16% — iron 15% — molybdenum 7%.	ASTM F1058 ISO 5832-7	Annealed	950 MPa (138 ksi)	450 MPa (65 ksi)	50%	Diagnostic needles, chromatography, endoscope shafts
		Cold worked & aged	1900 MPa (276 ksi)	1600 MPa (232 ksi)	3%	
Nickel and alloys						
High resistance to corrosion, to temperature variation and to high temperatures.	Ni 200, Ni 201	2.4066 2.4068				Heat exchangers for any industry, aerospace components...
	Monel®					
	Inconel® 600	2.4816	Annealed	600 MPa (87 ksi)	300 MPa (43,5 ksi)	30%
			Cold Worked	850 MPa (123 ksi)	750 MPa (109 ksi)	7%
	Inconel® 601	2.4851	Annealed	920 MPa (133 ksi)	500 MPa (72,5 ksi)	40%
			Cold Worked	1320 MPa (191 ksi)	1100 MPa (160 ksi)	5%
	Inconel® 718, X-750...	2.4668 2.4669				

Alloy		Main standard	Condition	UTS	Yield	Elong.	Applications
Stainless steels							
Versatile and proven: excellent corrosion resistance, biocompatibility (316LVM: ASTM F138).	316LVM	UNS S.31673 1.4441 ASTM F138/ F139 ISO 5832.1	Annealed	620 MPa (90 ksi)	320 MPa (46 ksi)	45 %	Implants, vascular guidewires
			Cold Worked	1000 MPa (145 ksi)	800 MPa (116 ksi)	10 %	
	304, 304L	1.4301 1.4307	Annealed	620 MPa (90 ksi)	260 MPa (38 ksi)	50 %	Catheters, IVD needles
			Cold Worked	1050 MPa (152 ksi)	840 MPa (122 ksi)	8 %	
Premium medical grade: vacuum melted, excellent inclusion cleanliness. **Stock and availability:** more than 200 finished product references available immediately.	321	1.4541	Annealed	650 MPa (94 ksi)	270 MPa (40 ksi)	50 %	Tubes resistant to high temperature and corrosion
			Cold Worked	900 MPa (130,5 ksi)	700 MPa (101,5 ksi)	10 %	
	904L	1.4539					
	631 (17-7PH)	1.4568	Annealed	900 MPa (130,5 ksi)	300 MPa (43,5 ksi)	30 %	Orthopedic instruments, biopsy devices and medical devices
			Cold Worked & aged	1200 MPa (174 ksi)	1000 MPa (145 ksi)	10 %	
	634 (AM355)						
Precious metals and alloys							
Inert and biocompatible: Pt and Au are virtually inert in vivo. **Superior functionality:** highly conductive (electrodes), radiopaque. **Critical small batches:** optimized manufacturing, minimized losses. temperatures.	Pt-Iridium 90/10, 80/20						Electrodes, markers, chromatography components
	Gold						Probes, electrodes
	Platinum						
	Silver		Cold Worked	275 MPa (40 ksi)	235MPa (34 ksi)	10 %	

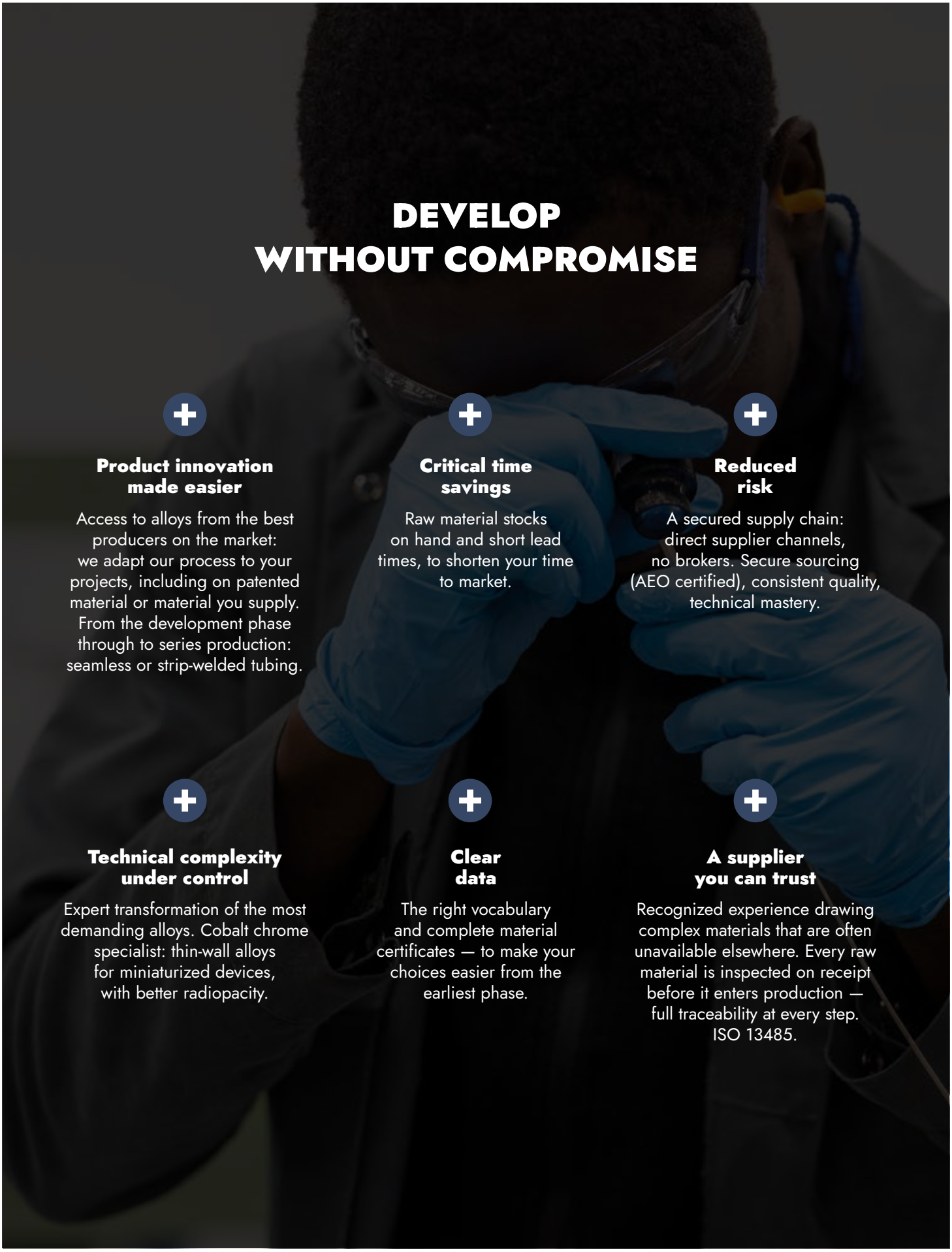
Proprietary alloys (customer)

R&D co-development:
MINITUBES adapts its process — flexibility beyond the standard.

Confidentiality:
secure handling, intellectual property protected.

Innovation accelerator:
rom qualification through to mass production.

Recovery of scrap for material revalorization.



DEVELOP WITHOUT COMPROMISE

Product innovation made easier

Access to alloys from the best producers on the market: we adapt our process to your projects, including on patented material or material you supply. From the development phase through to series production: seamless or strip-welded tubing.

Critical time savings

Raw material stocks on hand and short lead times, to shorten your time to market.

Reduced risk

A secured supply chain: direct supplier channels, no brokers. Secure sourcing (AEO certified), consistent quality, technical mastery.

Technical complexity under control

Expert transformation of the most demanding alloys. Cobalt chrome specialist: thin-wall alloys for miniaturized devices, with better radiopacity.

Clear data

The right vocabulary and complete material certificates — to make your choices easier from the earliest phase.

A supplier you can trust

Recognized experience drawing complex materials that are often unavailable elsewhere. Every raw material is inspected on receipt before it enters production — full traceability at every step. ISO 13485.

Looking for the right alloy for your project? Let's talk.

info@minitubes.com · www.minitubes.com

MINITUBES
PUSHING YOUR LIMITS