

Specialty metals

Quality alloys and services to promote
precision and performance



We are Wieland

Customers in the marine defense & shipbuilding, oil & gas, and aerospace industries can rely on Wieland's high standards to receive specialty products and services with quality, traceability, and certification.

The Quality Assurance Program at Wieland is unparalleled in the industry. With a global network of production sites, nationwide service, and local solution-based support, customers gain instant access to a broad product, service, and technology portfolio.

wieland

Global research and development organization

- Technological advantage and expertise in all aspects of metal processing
- Scientific expertise and advice to departments throughout the product cycle
- Highly focused expert teams with global reach



Marine defense products

With a well-established history, Wieland has supplied several niche market alloys to the marine defense and shipbuilding industries for more than 35 years. Further supporting the industry, Wieland continues as a long-standing member of the American Shipbuilding Association (ASA).

Industry certifications

AS9100D | ISO 9001-2015 | JCP Certified | Level One/SUBSAFE | MIL-I-45208 | Navy Nuclear Propulsion (NNPI) Appr. | Pratt & Whitney LCS Certified | Supplier Delegated Inspection (SDI), NSB/GDEB

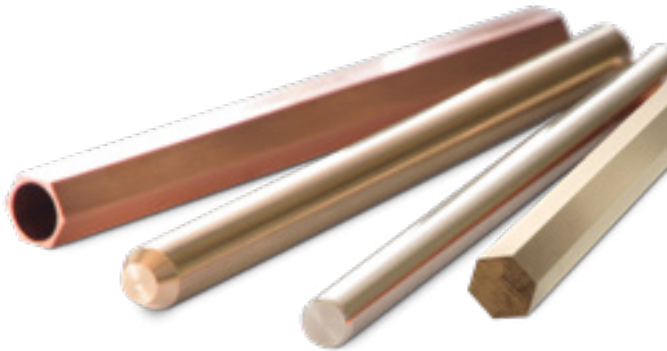
Alloy	Specifications	Size range	Available shapes
Aluminum bronze			BarBarBarTube
C63000	AMS 4640 ASTM B150 ASTM-B-124 QQ-C-465	0.5"-21.0"	●■●○
C63200	QQ-C-465 ASTM B150 ASTM B124 MIL-B-24059	0.5"-21.0"	●■●○
C64200	QQ-C-465 ASTM B150 ASTM B124	0.5"-8.5"	●■●○
Copper nickel			
C71500	MIL-C-15726 MIL-T-15005 ASTM B151 MIL-C-24679	0.75"-11.25"	●■●○
High strength steel			
HY 80	MIL-S-21952 C&D T9074-BD-GIB-010 300 Apdx. G	0.75"-10.5"	●■●○
HY 100	MIL-S-21952 C&D T9074-BD-GIB-010 300 Apdx. G	0.75"-10.5"	●■●○
Stainless steel			
A286	AMS 5737 ASTM A453 GRADE 660 CLASS A&B AMS 5732 ASTM I638 GRADE 660 TYPE 1&2	0.25"-9.0"	●■●○
Nitronic 60	AMS 5848 ASTM A276 ASTM A193	2.5"-6.25"	●■●○
17-4	ASTM A564 AMS 5643	3.5"-8.0"	●■●○
17-4 Cond H1025	ASTM A564 AMS-5643 MIL-I-45208A	1.062"-5.5"	●■●○
17-4 Cond H1075	ASTM A564 ASME-SA-564	0.75"-4.0"	●■●○
17-4 Cond H1100	ASTM A564 ASME-SA-564	0.75"-4.0"	●■●○
302/304/305		Contact for sizes	Wire
304 Annealed	QQ-S-763 ASTM A276	0.6875"-10.0"	●■●○
304-B	ASTM A193 B8 CL-2 & 2B QQ-S-763 ASTM A193-10 & 10A	0.5"-2.5"	●■●○
316-L Annealed	QQ-S-763	3.5"-5.0"	●■●○
316-B	QQ-S-763	0.75"	●■●○
316-L		Contact for sizes	Wire
418 Greek ascology	AMS 5616	0.125"-6.0"	●■●○
430	ASTM A276 QQ-S-763F	0.5"-2.5"	●■●○
430-F	ASTM A582 QQ-S-764B	0.25"-3.0"	●■●○
Nickel alloys			
400	QQ-N-281 ASTM B164 AMS 4674 ASME SB164	0.375"-12.0"	●■●○
405	QQ-N-281 ASTM B164 AMS 4674 ASME SB164	0.375"-3.0"	●■●○
500 HF/AN/AH	QQ-N-286G	1.0"-12.0"	●■●○
500 CD/AN/AH	QQ-N-286G	0.5"-1.75"	●■●○
500 Annealed	QQ-N-286G	0.5"-1.75"	●■●○
625	AMS 5666 ASTM B446 GRADE 1	0.75"-8.0"	●■●○
718	AMS 5662	0.5625"-3.75"	●■●○
718 API	API 6A718, API STANDARD 6ACRA API SPEC 6A NACE MR0175 ASTM B637	1.0"-1.75"	●■●○
Hastelloy X	AMS 5754 MIL-I-45208A	1.125"-4.75"	●■●○

Alloy	Specifications	Size range	Available shapes
Other bronze			BarBarBarTube
C46400	ASTM B171 QQ-B-639 ASTM B21 ASTM B124 QQ-B-637 AMS 4611	0.375"-8.0"	●■●○
C65500	ASTM B98 ASTM B124	1.5"	●■●○
C51000	ASTM B139 AMS 4625 QQ-B-750	1.5"-3.5"	●■●○
Bearing alloys			
Alcop	MS-988 EMS-102	Contact for sizes	●■●○
C67500	QQ-B-728 ASTM-B-138 ASTM-B-124	1.0"-6.0"	●■●○
C65620	AMS 4616	1.375"-6.0"	●■●○
C86400	ASTM B584 MS-989 EMS 102.1	Contact for sizes	●■●○

Capabilities

Process	Specifications
Grinding	Up to 6"D
Heat treating	To customer specifications
Milling (4axis)	Up to 40"L
Precision turning	Up to 25.5"D and 44"L
Saw cutting	Up to 22"D
Ultrasonic testing	To customer specifications

LevelOne traceability / testing and upgrading
Strategic material sourcing / DFAR, process approvals, complex project management



Oilfield products

Wieland supplies alloys specifically engineered for the demands of the oil & gas industry, considering both industry and OEM specifications. With the world’s largest and most diverse inventory of specialty high-performance copper alloys to select from, off-the-shelf or custom products are delivered timely with safety, performance, and stability in mind.

Industry certifications

ISO 9001-2015 | AS9100D

Capabilities

Process
Abrasive water jet machines
Benders
Circle saws
CNC routers
Plate saws
Punches
Shears
Vertical/horizontal band saws



Stocking over 40 copper alloys with 5,300 different size items

	Round bar	Square bar	Flat & bus bar	Hex bar	Hollow bar	Solid bar	Angle	Sheet	Plate	Pipe	Tube	Fittings & flanges
Copper												
C10100 Oxygen free	X							X	X	X		
C11000 Copper (ETP)	X	X	X					X	X			
C12200 Copper (DHP)								X	X	X	X	
C14500 Tellurium	X		X									
C17200 Beryllium	X								X		X	
C17300 Beryllium leaded	X											
C17510 Beryllium copper	X											
C18200 Chromium copper	X											
Copper nickel												
C70600 90/10	X	X		X				X	X	X	X	X
C71500 70/30	X							X	X	X	X	X
Brass												
C22000 Commercial bronze								X	X			
C23000 Red brass										X		
C26000 Yellow brass								X	X		X	
C28000 Muntz brass								X	X			
C36000 Free cutting brass	X	X	X	X								
C44300 Admiralty brass											X	
C46400 Naval brass	X			X				X	X			
Bronze												
C51000 Phosphor bronze	X											
C54400 Phosphor bronze	X											
C61400 Aluminum bronze	X							X	X			
C63000 Nickel aluminum bronze	X								X			
C64200 Aluminum silicon bronze	X											
C65100 Low silicon bronze										X		X
C65500 Silicon bronze	X				X			X	X			X
C67500 Manganese bronze	X											
C86300 Manganese bronze						X						
C90300 High tin bronze						X						
C93200 660 Bronze		X	X		X	X						
C93600 Modified SAE 64					X	X						
C95400 9/C Aluminum bronze		X	X		X	X						
C95500 Nickel aluminum bronze						X						
Aluminum												
6061	X	X	X	X			X	X	X	X	X	
6101			x									
5052-H32								X	X			
ATP-5 Cast tool & jig									X			
C72900 ToughMet® 3	X								X		X	
Stainless steel												
303 (Free machining)	X	X	X	X								
304/304L	X	X	X	X			X	X	X	X	X	
316/316L	X	X	X	X			X	X	X	X	X	
17-4 UNS S17400	X											
N60 UNS S21800	X											

Aerospace products

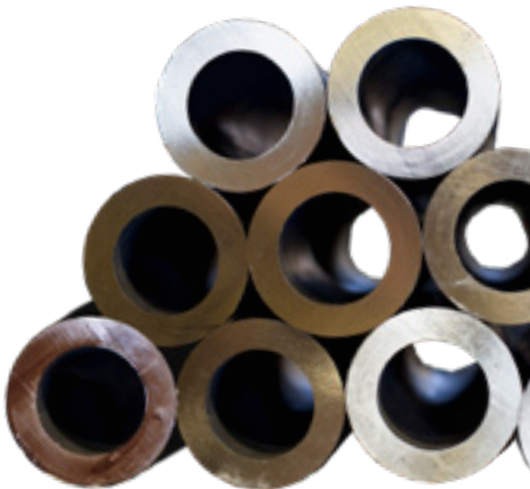
Specifically engineered for the demands of the aerospace and aviation industries, Wieland supplies alloys that are lightweight, extremely strong, durable, corrosion-resistant, and maintain performance across a broad temperature range. Wieland is a world-wide partner; available to help develop strategies to strike the delicate balance between performance and production costs.

Industry certifications

AS 9100D | ISO 9001-2015 | L.C.S. Approved Vendor | Top Tier Supplier by General Dynamics and NNSB

Alloy	Temper	Specifications	Available shapes
Spinodal copper nickel tin (ToughMet® 3)			Plate Rod Tube Wire
C72900	AT90	BMS 7-373	   
CuNi15Sn8			
C72900	AT110	AMS 4596 AMS 4595 AMS 4598 ABS 5152 ABS 5849 MTL 4112 BELL 299-947-539 BMS 7-373 AIMS 02-04-002 ASTM B929 Boeing M0005044 SKF 40350	   
CuNi15Sn8			
C72900	TS160	AMS 4597 MS138	   
CuNi15Sn8			
Copper beryllium			
C17200 (Alloy 25)	A (TB00)	AMS 4650 AMS 4530 ASTM B196 QQ-C-530 DMS 1904 ASNA 3414 NAI 1225 NFL 14-709 SKF 40314	   
CuBe2 CuBe1.9 CW101C			
C17200 (Alloy 25)	H (TD04)	AMS 4651 ASTM B196 QQ-C-530 MSRR 8509 DMS 1904	   
CuBe2 CuBe1.9 CW101C			
C17200 (Alloy 25)	AT (TF00)	AMS 4533 AMS 4535 ASTM B196 ASTM B643 QQ-C-530 NFL 14-709 ASNA 3417 ASNA 6110 ASNA 3384 DMS 1904 DMS 2088 SAE-AMS-H-7199 GE B11H51A2 SKF 40313 SKF 40317 SKF 40318	   
CuBe2 CuBe1.9 CW101C			
C17200 (Alloy 25)	HT (TH04)	AMS 4534 ASTM B196 QQ-C-530 ASNA 3400 SAE-AMS-H-7199 MSRR 8509 DMS 1904 DMS 2088 NFL 14-709	   
CuBe2 CuBe1.9 CW101C			
C17200 (Alloy 25)	Overaged	BMS-7-353	   
CuBe2			
C17510 (Alloy 3)	A H AT HT	B11H141A2 ASTM B441	   
CuNi2Be CW110C			
Copper beryllium/free machining			
C17300 (M25)	H (TD04)	ASTM B196	   
CuBe2Pb CW102C			
Aluminum bronze (wrought)			
C62300		AMS 4635 ASTM B150 APS 364	   
CuAl10Fe3 CA 103			
C64200		AMS 4631 AMS 4633 AMS 4634 ASTM B150 QQ-C-465	   
CuAl75i2 CA 107			
Aluminum bronze (cast)			
C95200		ASTM B271 QQ-B-671 QQ-C-390	   
C95300	HT	ASTM B271 QQ-B671 QQ-C-390	   
C95400	HT	ASTM B271 QQ-B-671 QQ-C-390 ASTM B505	   
C95410	HT	ASTM B271	   
C95420	HT	AMS 4870 AMS 4871 QQ-C-390	   

Alloy	Temper	Specifications	Available shapes
Nickel aluminum bronze (wrought)			Plate Rod Tube Wire
C63000	HR50 TQ50	AMS 4640 ASTM B150 QQ-C-465 NFL 14-705	   
CuAl10Ni5Fe4			
C63020	HT (TQ50) HT (TQ30)	AMS 4590 ASTM B150	   
CuAl11Ni5Fe5			
UA10N		ASNA 3315 ASNA 3406 NFL 14-705 NCT 10-641 ABS 5688	   
CuAl10Ni5Fe4			
CA 104		BS 2 B23 BS B 23 BS 2874 DTD 197A LAT 1-9063 LAT 3-0189 SKF 40224 SKF 40228 NFL 14-706	   
UA11N			
Nickel aluminum bronze (cast)			
C95500	TQ50	QQ-C-390 QQ-B-671 ASTM B271 ASTM B505 DMS 1677	   
C95510	TQ50	AMS 4880 SKF 40226 FTI 8701	   
CuAl10Ni5Fe3			
C95520	TQ50	AMS 4881	   
CuAl11Ni5Fe5			
High tensile brass/manganese bronze			
UZ19A6		NFL 14-707 NCT10-631-11MD NCT 15-631-02 ASNA 3402 CR. 1.2.0.14 D M2	   
CuZn19Al6MnFe			
C86300		AMS 4862 ASTM B505	   
Sintered bronze (oil impregnated)			
Sintered bronze		AMS 4805 MIL-B-5687 ASTM B438 SAE 841	   
Phosphor bronze			
C51000	H04	AMS 4625 ASTM B139	   
CuSn5			
C52100	H04	NFL 14-703 DTD 265A BS B 24 BS 2B 24	   
CuSn8 PB104			
Copper silicon/copper nickel/copper nickel silicon			
C65620		AMS 4616	   
CuSi3Fe2Zn3		Si45Z	   
CuNi2Si		BS B 25 DTD 498A DIN 2.0855 CW111C	   
CuNi3Si		NFL 14-701 NCT 15-643 ASNA 3405	   
CuNi14Al2		DIN 2.1504 NFL 14-702 ASNA 6127	   
Free machining brass/naval brass			
C36000	H02	AMS 4610 ASTM B16	   
C46400	H02	AMS 4611	   
C46400	H04	AMS 4612	   



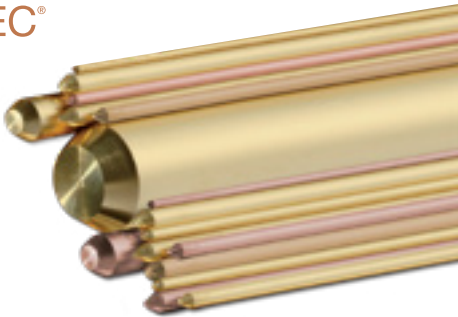
Connector rod and wire products

Under the brand WICONNEC, Wieland offers a range of copper materials in the form of rods and wires that are ideal for machined sockets and pins for plug connectors. This material portfolio also offers brass, in addition to specially developed copper alloys for complex turned plug connectors.

WICONNEC materials meet the requirements of current directives, such as RoHS (Restriction of Hazardous Substances) and the ELV (End of Life Vehicle) directive.

WICONNEC alloys

Alloy	Specifications	Available shapes	
Lead-free		Rod	Wire
eco S34		●	⌘
CuZn34Mn2SiAlNi UNS C67340			
Wieland-K55	ASTM B888 ASTM B422	●	⌘
CuNi3SiMg C70250			
eco KS2	ASTM B301 EN 12164 EN 12166	●	⌘
CuSP C14700 CW114C			
eco KS4		●	⌘
CuNiSP			
Legacy alloys			
WICONNEC-Z10	ASTM B453	●	⌘
CuZn37Pb0.5 C33500 CW604N			
WICONNEC-Z11	ASTM B453 EN 12164 EN 12165 EN 12166	●	⌘
CuZn35Pb1 C34000 CW600N			
WICONNEC-Z14	ASTM B453 EN 12164 EN 12166	●	⌘
CuZn37Pb2 C35300 CW606N			
WICONNEC-Z21	EN 12164 EN 12166	●	⌘
CuZn38Pb2 CW608N			
WICONNEC-Z23	ASTM B453 EN 12164 EN 12166	●	⌘
CuZn36Pb3 C36000 CW603N			
WICONNEC-Z33	ASTM B455 EN 12164 EN 12165 EN 12166	●	⌘
CuZn39Pb3 C38500 CW614N			
WICONNEC-KC1	ASTM B301 EN 12164 EN 12166	●	⌘
CuPb1P C18700 CW113C			
WICONNEC-K44		●	⌘
CuNi1Pb0.6P C19140/C19150			
WICONNEC-K41		●	⌘
CuNi1Pb1P C19150/C19160			
WICONNEC-B44	ASTM B139 EN 12164	●	⌘
CuSn4Pb4Zn4 C54400 CW456K			
C145	ASTM B301 EN 12164 EN 12166	●	⌘
CuTeP C14500 CW118C			



Dimensional tolerances

Diameter specific tolerances				
Nominal diameter range	0.060"-0.125"	0.126"-0.250"	0.251"-0.400"	0.401"-0.750"
Diameter tolerance	+0 / -0.00055"	+0 / -0.0007"	+0 / -0.0009"	+0 / -0.0011"
Rod-to-rod diameter tolerance	+/- 0.00008"	+/- 0.00012"	+/- 0.00016"	+/- 0.00020"
Lot-to-lot diameter tolerance	+/- 0.00020"	+/- 0.00020"	+/- 0.00020"	+/- 0.00030"

General tolerances	
Circularity/roundness	0.10% Max of nominal diameter
Straightness	+/- 0.007"/foot
End finish	One end chamfered/one end pointed at 60°
Surface condition	Bright, shiny, free of pits/dents/scratches
Surface testing	100% Eddy current tested
Packaging	50lbs Individual bundles in box of 500-1000lbs

Size ranges
0.050"-0.250" For wire
0.050"-3.000" For rod



Ferrous and non-ferrous products

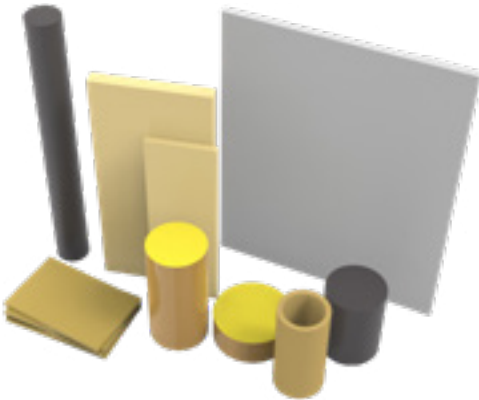
Stainless steel metal is an alloy family that encompasses several diverse compositions. This iron-based alloy is supplemented with various alloy materials, such as nickel, carbon, silicon, titanium, copper, and many more. It possesses several desirable properties including corrosion- and stain-resistance and a shiny, sleek appearance. Stainless Steel is a top choice alloy for parts, structures, and frames in the aerospace, automotive, and architecture industries.

Alloy	Grade	Sizes (diameter)	Available shapes			
			Bar	Bar	Bar	Tube
C14700	ASTM B301	0.236"-0.706"	●	●	■	○
C17300	ASTM B196-07 QQ-C- 530	0.050"-1.00"	●	●	■	○
C17510	ASTM B441	0.035"-0.500"	●	●	■	○
C18700	ASTM B301	0.09375"-0.625"	●	●	■	○
C19160	ASTM B249	0.0785"-0.625"	●	●	■	○
C36000	ASTM B16	0.0625"-2.00"	●	●	■	○
C71500	MIL-C-15726 MIL-T-15005 ASTM B151 MIL-C-24679	0.75"-5.50"	●	●	■	○
C71580	ASTM F96	0.250"-2.750"	●	●	■	○
303 Stainless	AMS 5640 ASTM A582	0.125"-5.50"	●	●	■	○
304 Stainless	ASTM A276 ASTM A479 AMS 5639 AMS QQ-S-736D	0.3125"-2.50"	●	●	■	○
316 Stainless	ASTM A479 AMS 5653 AMS QQ-S763 ASTM A 276	0.250"-3.50"	●	●	■	○
K500	QQ-N-286, F/G, FM.1 AND FM.2	0.500"-12.00"	●	●	■	○
Ni400	QQ-N-281 ASTM B164 AMS 4674 ASME SB164	0.500"-12.00"	●	●	■	○
Ni405	QQ-N-281 ASTM B164 AMS 4674 ASME SB164	0.500"-3.00" 0.562"-3.125" HEX	●	●	■	○

Polymer products

Wieland's line of specialty plastics includes advanced engineering, engineering, and high strength plastics. Unique specifications require an innovative solution and specialty plastics provide a variety of shapes to meet custom needs.

Material	Specifications	Size range		Available shapes				
		Plate	Rod	Plate	Rod	Strip	Tube	Profile
Advanced engineering plastics								
Duratron PAI grades 4203 4301 5030 5530 7130	ASTM D7292 S-PAI0111 ASTM D7292 S-PAI0121 ASTM D7292 S-PAI0131	0.5"-8.5"						
Duratron PBI	Various specs	0.500"-1.50"	0.375"-3.75"					
Duratron PI	Various specs	0.500"-1.50"	0.375"-3.75"					
Semitron ESD 520	Various specs	0.375"-1.50"						
Semitron MDS 100	Verious specs	2mm-12mm						
Vespel SP-1 SP-22	ASTM 1708 ASTM 790 ASTM 695	0.250"-1.50"	0.125"-4"					
Engineering plastics								
PEEK	ASTM D6262 S-PEAK 0111	0.250"-4.00"	0.125"-6.00"					
Semitron 410C 420 480	Various specs	0.375"-2.00"	0.375"-3.00"					
Semitron 500	Various specs	0.250"-2.00"						
Techtron PPS	ASTM D6358 PPS 000 B43050	0.250"-2.00"	0.250"-5.00"					
Ultem 1000 2300	ASTM D7293 S-PEI 0111 ASTM D7293 S-PEI 0213	0.250"-4.00"	0.125"-8.00"					
High strength								
Acetron GP	ASTM D6100 S-POM 0211, LP (Low porosity)	0.031"-4.5"	0.062"-12.0"					
Derlin 500 Delrin AF Delrin DE588	ASTM D6100 S-POM 0143 ASTM D6100 S-POM 0111	0.250"-4.0"	0.250"-8.00"					
ECTFE	ASTM D792 ASTM D638	0.250"-2.00"	0.250"-2.00"					
Ertalyte	ASTM D6261 S-TPES 0211	0.078"-4.00"	0.275"-7.00"					
Nylon 101 Nylon GS Nylon NSM	ASTM D5989 S-PA0111 ASTM D5989 S-PA 0113	0.031"-4.5"	0.062"-6.00"					
PCTFE Kel-F	ASTM D792 AMS 3650		0.375"-0.00"					
Polycarbonate	ASTM D6098 S-PC 0121	0.125"-4.00"	0.187"-4.00"					
Polyethylene	Various specs	0.062"-3.00"						
Polypropylene	Various specs	0.062"-3.00"						
PTFE (Teflon) grades	ASTM D1710	0.125"-4.0"	0.062"-8.0"					
Semitron 225	Various specs	0.250"-4.00"	0.187"-6.00"					
UHMW (Tivar)	ASTM D6712 S-UHMW-PE0111	0.250"-4.5"	0.250"-8.00"					





Recycling North America

Turning scrap into new metal

Wieland Recycling North America secures the supply of recycled metals to our business units and customers for use in a wide variety of applications. In addition to copper and brass, we recycle various other types including aluminum, steel, e-scrap and many more. They are collected and reprocessed in a sustainable and resource-conserving manner while maintaining consistent quality.

Wieland Recycling has knowledge to support all markets.



Wieland Metal Services

Offering value to all customers

- ✓ **Global availability and presence** with locations and warehousing close to all customers for local production and short distances as far as possible
- ✓ **Innovative solutions** through sophisticated technical support for our customers and close interaction with our research and development department
- ✓ **Comprehensive range of alloys and products** as a "one stop shop" for our customers to meet their highest demands in all application areas
- ✓ **Sustainable product portfolio** with an ambitious decarbonization strategy to position the Wieland Group as a pioneer of a sustainable non-ferrous metal industry
- ✓ **Excellent product quality and reliability in manufacturing** through the use of state-of-the-art technologies and automation in manufacturing, engineering, sales and service
- ✓ **Outstanding service orientation and customer satisfaction** with our claim to on-time and complete deliveries according to customer requirements wherever possible
- ✓ **Customer-friendly business model** through high availability of a wide range of products due to secured corporate financing

