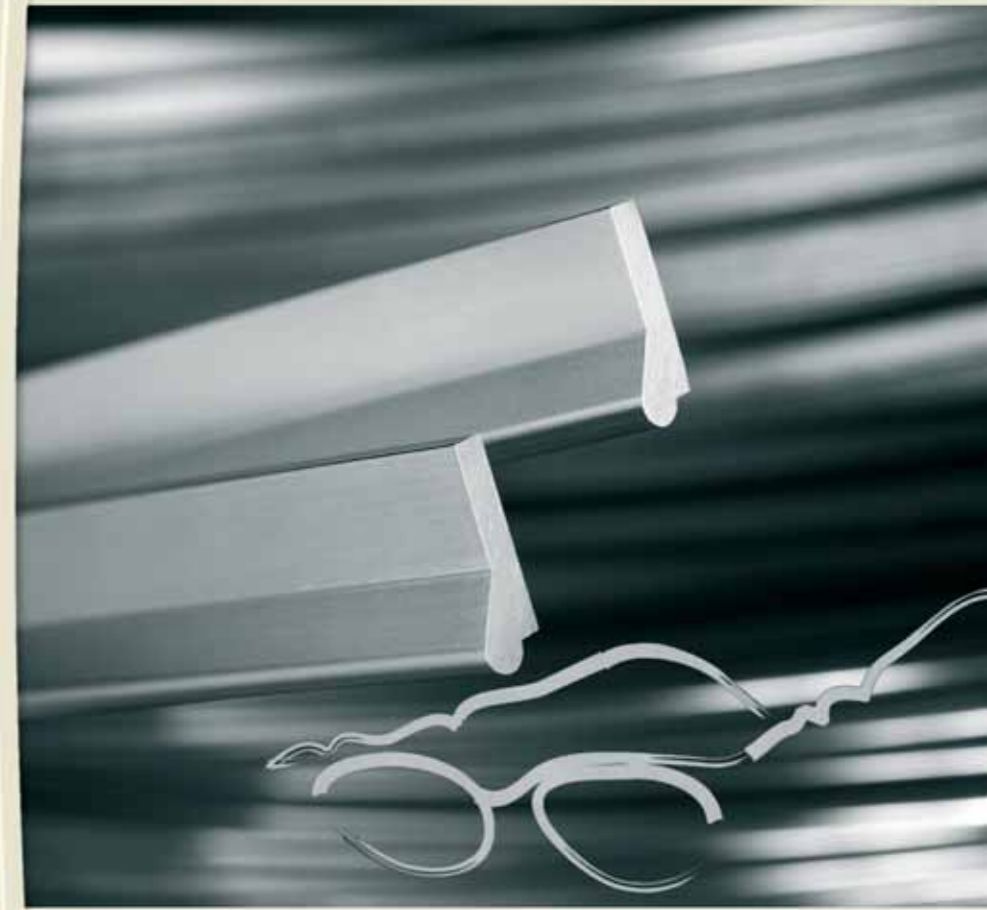


Wieland



Wieland

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Wire, rods and sheet
for optical applications

Wire, rods and sheet for optical applications



Round or sectional nickel-silver wire is often the pre-material for spring hinges.



In a milling operation Wieland sheets can be processed into frames e.g. made of the nickel-free alloy FX9.



Wieland is one of the leading manufacturers of copper and copper alloys in the world. These materials are produced as strip, sheet, tube, rod, section or wire. Even special forms such as finned tubes, heat exchangers or bushings and bearings are made. The Wieland Group employs approx. 6000 people worldwide.

For the optical industry we produce sheet, rods and wire. Sheet is used to mill the spectacle frames. Wire is needed for hinges and temples. With Wieland you can be sure of manufacturing top-quality products which are at the forefront of technology. Besides the already well-known bronze and nickel-silver alloys Wieland offers its Diamond Line with several nickel-free alloys.

They do not only comply with the latest regulations and directives but exhibit particularly attractive material characteristics. These materials enable manufacturers to produce high-grade, absolutely nickel-free spectacles.

The optical industry tends to purchase all kinds of pre-material from one single source. We are able to meet this

requirement with a variety of best suited alloys, with numerous sizes and shapes of rolled and drawn products. The following table provides a sum-

mary of alloys and available products. If you need more details please ask for our alloy data sheets.

Alloy			Chemical composition, reference values (%)										Physical properties		Fabrication properties							Hardness (HV) reference values		Product					
Material	Wieland designation	Standard designation	Cu	Sn	P	Zn	Ni	Mn	Ti	Al	Fe	Pb	Density (kg/dm ³)	Soft annealing temperature (°C) 1 - 3 h	Machinability (CuZn39Pb3 = 100 %)	Capacity for being cold worked	Soldering	Welding	Polishing	Electroplating	Corrosion resistance against perspiration	soft	hard	sheet/strip	round wire	sectional wire	round rod	sectional rod	
Phosphor bronze	B06	CuSn6	balance	6.3	0.04								8.8	500 - 650	20	excellent	excellent	good	good	good	good	fair	85	230	●	●	●	●	●
	B16	CuSn6	balance	6.0	0.04								8.8	500 - 650	20	excellent	excellent	good	good	good	good	fair	85	230	●				
	BV9	CuSn6	balance	6.3	0.20								8.8	500 - 650	20	excellent	excellent	excellent	good	good	good	fair	85	230		●	●	●	●
	B09	CuSn8	balance	8.0	0.20								8.8	500 - 650	25	excellent	good	good	good	good	good	fair	75	250		●	●	●	●
	B18	CuSn8	balance	8.0	0.04								8.8	500 - 650	25	excellent	good	good	good	good	good	fair	75	250	●				
Nickel silver	N12/N22	CuNi12Zn24	64.5			balance	12.0						8.7	500 - 650	40	excellent	excellent	excellent	excellent	excellent	good	90	180	●	●	●	●	●	
	N32	CuNi12Zn30Pb1	57.0			balance	12.0					1.0	8.6	500 - 650	70	fair	good	good	good	good	good	good	130	150		●	●	●	●
	N18/N29	CuNi18Zn20	61.0			balance	18.0						8.6	500 - 650	40	excellent	excellent	excellent	excellent	excellent	good	100	180	●	●	●	●	●	
	N37	CuNi18Zn19Pb1	60.0			balance	17.5						8.7	500 - 650	60	fair	good	good	good	good	good	good	100	180		●	●	●*	●
	N90	not standardized	62.0	2.0		balance	23.0						8.8	500 - 650	20	excellent	good	good	good	good	good	good	90	160		●	●	●	●
Nickel-free alloys	BC9-Diasol	not standardized	balance	15.0					0.1		1.0		8.7	600 - 700	40	excellent	excellent	good	excellent	excellent	excellent	excellent	140	210		●	●	●	●
	FX9-Diaflat	CuZn15Mn15Al1	balance			15.0		15.0		1.0			8.0	500 - 700	20	excellent	good	good	excellent	excellent	good	95	200	●	●	●	●	●	
	S50-Diapius	CuZn5Al5Mn5Fe	balance			5.0		5.0		5.0	1.5		7.7	600 - 700	30	good	excellent	good	excellent	excellent	good	135	210		●	●	●	●	
	S51-Dibase	CuAl4Fe2Mn	87.0			balance		1.0		4.0	2.0		8.1	600 - 700	30	good	good	good	excellent	excellent	good	120	200		●	●	●	●	

*several diameters available from stock