wieland

Wire, rods and sheet for optical applications

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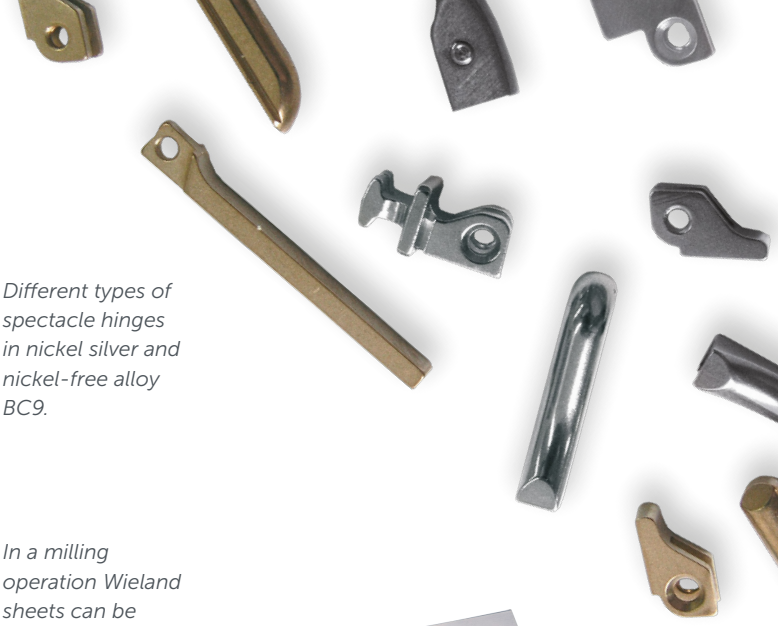
For the optical industry Wieland produces sheet, rods and wire. Sheet is used to mill the spectacle frames. Wire is needed for hinges, rims and temples. With Wieland you can be sure of manufacturing top-quality products which are at the forefront of technology. Besides the already well-known bronze and nickel-silver alloys Wieland offers several nickel-free alloys. They do not only comply with the latest regulations and directives but exhibit particularly attractive material characteristics.

Round or sectional nickel-silver wire is often the pre-material for all types of hinges.

Alloy			Chemical composition, reference values (%)										Physical properties	
Material	Wieland designation	Standart designation	Cu	Sn	P	Zn	Ni	Mn	Ti	Al	Fe	Pb	Density (g/cm³)	Soft annealing temperature (°C) 1–3h
Phosphor bronze	B06	CuSn6	balance	6.3	0.04							0.0090	8.8	500–650
	B16	CuSn6	balance	6.0	0.04							0.005	8.8	500–650
	BV9	CuSn6	balance	6.3	0.20							0.0090	8.8	500–650
	B09	CuSn8	balance	8.0	0.20							0.0090	8.8	500–650
	B18	CuSn8	balance	8.0	0.04							0.005	8.8	500–650
Nickel silver	N12	CuNi12Zn24	64.5			balance	12.0					0.0070	8.7	500–650
	N22	CuNi12Zn24	64.5			balance	12.0					0.0100	8.7	500–650
	N18	CuNi18Zn20	61.0			balance	18.0					0.0070	8.6	500–650
	N29	CuNi18Zn20	61.0			balance	18.0					0.008	8.6	500–650



Different types of spectacle hinges in nickel silver and nickel-free alloy BC9.

These materials enable manufacturers to produce high-grade, absolutely nickel-free spectacles.

The entire range of alloys meets the requirements of the U.S. CPSIA. e.g. Pb ≤ 100 ppm.

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 summary of alloys and available products.

If you need more details please ask for our alloy data sheets.

In a milling operation Wieland sheets can be processed into frames.

Fabrication properties							Hardness(HV) reference values		Product				
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
20	excellent	excellent	good	good	good	fair	85	230	•	•	•	•	•
20	excellent	excellent	good	good	good	fair	85	230	•				
20	excellent	excellent	excellent	good	good	fair	85	230		•	•	•	•
25	excellent	good	good	good	good	fair	75	250		•	•	•	•
25	excellent	good	good	good	good	fair	75	250	•				
40	excellent	excellent	excellent	excellent	excellent	good	90	180	•				
40	excellent	excellent	excellent	excellent	excellent	good	90	180		•	•	•	•
40	excellent	excellent	excellent	excellent	excellent	good	100	180	•				
40	excellent	excellent	excellent	excellent	excellent	good	100	180		•	•	•	•

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