



Wiron® 99 –
the patented non-
precious metal alloy
for metal-to-ceramic
work or acrylic
veneering
– free of beryllium –

Biocompatible, proven worldwide and reliable

- ◆ Extremely high resistance to corrosion: no cytotoxic potential in cell culture test
- ◆ Biocompatibility certified by neutral institutes
- ◆ Low thermal conductivity
- ◆ High modulus of elasticity
- ◆ Great strength with any acceptable span
- ◆ Easy finishing thanks to low hardness of 180 HV 10
- ◆ Long cooling time not required: low coefficient of expansion
- ◆ Reliable metal-to-ceramic bond
- ◆ High heat resistance: dimensional stability during firing and soldering
- ◆ Reliable processing according to proven Wiron® system

Wiron® 99

Biocompatibility

Wiron® 99 is extremely corrosion-resistant thanks to a dense, firmly adhering passive layer of chrome which is stabilized through Niob. This plus the fact that Wiron® 99 has no cytotoxic properties have been substantiated by an independent institute. We will gladly send you a copy of the certificate on request.

Superior characteristics

The **modulus of elasticity** – a crucial factor for the load capacity of a crown and bridge alloy – is roughly twice that of precious metals. With identical modelling this means that the bridge can withstand double the load. The size and design of bridge units possible is thus determined only by dental criteria.

An excellent **bond** is created between Wiron® 99 and ceramic materials. This has not been achieved by chance, but is the result of working closely together with the leading ceramics manufacturers. These ceramic products and the properties of Wiron® 99 are matched to produce a bond between metal and ceramic that stands up to any critical comparison.

The **high heat resistance** is a safety factor protecting against deformation during soldering as well as veneering of the ceramic material. The dentist can thus be assured that the fitted frame will remain perfectly seated even after veneering.

The **low thermal conductivity** of Wiron® 99 protects the pulp of the bridge abutment teeth against the intense temperature sensitivity that may arise with precious metals.

Easy processing

Wiron® 99 is produced using a continuous casting process and is supplied in the form of 6-gram cylinders. They can be melted and cast without any problem.

Every pack includes concise instructions. In addition, you can obtain the detailed manual entitled „Metal-to-ceramic alloys containing no precious metals“ on request.

For ceramic veneering Wiron® 99 is cooled **normally** like precious metal alloys. By virtue of the low coefficient of expansion, long-term cooling, as in the case of Wiron® 88, is no longer necessary. And, of course, Wiron® 99 is also the right alloy for acrylic veneering. The reduced hardness is very advantageous: with Wiron® 88 it was already as low as 200 HV10 after casting and with Wiron® 99 it is

now 180 HV10. This means easier finishing, suitability for all milling work and naturally easier polishing.

Reliable soldering

With Wiron® 99, too, very strong joints can be achieved with tried and tested Wiron® solder. They are invisible after polishing and can be easily veneered with ceramic material.

Carbon limited to a maximum of 0.02%, thus providing excellent corrosion resistance and optimised for laser welding with Wiroweld NC.

CE 0044



Wiron® 99 is the result of 30 years of clinical experience and consistent further development

Alloy characteristics:	standard values
Wiron® 99	
Colour	silver
Density	8.2 [g/cm ³]
Melting interval	1310-1250 [°C]
Casting temperature	approx. 1420 [°C]
Coefficient of expansion 20-600 °C	14.0 [10 ⁻⁶ K ⁻¹]
25-500 °C	13.8 [10 ⁻⁶ K ⁻¹]
Ductile yield (A ₅)	25 [%]
Elongation limit (R _p 0,2)	330 [MPa]
Thermal contraction solidus to room temperature	approx. 2.2 [%]
Modulus of elasticity	approx. 205,000 [MPa]
Vickers hardness (HV10) after casting/firing	180

Subject to modifications in design, scope of delivery and composition. Whether given verbally, in writing or through practical instructions, our process-related data and recommendations are based upon our own experience and trials and can only be considered as standard values. Status as of: 15.02.00

Availability and accessoires:	Unit	Content	Order No.
Wiron® 99	1 pack	250 g	50226
	1 pack	1000 g	50225
Wiroweld NC, Ni-Cr laser wire, containing no carbon	1 roll	approx. 5 m	50006
Wiron® soldering rods	1 pack	5 g	52625

Composition in % by weight:
Wiron® 99
Ni 65; Cr 22.5; Mo 9.5; Nb 1; Si 1; Fe 0.5; Ce 0.5, C max. 0.02