Wirobond®C





Wirobond[®] C – the cobalt-chrome metal-to-ceramic alloy, free of nickel and beryllium

A top alloy sets new standards

- Biocompatibility and high corrosion resistance thanks
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- to firmly adhering passive layer Biocompatibility certified by neutral institutes Has no cytotoxic potential and causes no skin irritation or allergic sensitisation ٠
- Modulus of elasticity double that of precious metals ٠
- Outstanding bonding strength with ceramics ٠
- High heat resistanceLow thermal conductivity
- Optimised for laser welding
- Trouble-free processing with BEGO system Constant high level of quality thanks to quality assurance system

Wirobond[®]C



Excellent bond with all leading ceramic materials

◄ Wirobond[®] C is the right alloy even for large spans

The new dimension of non-precious metal bonding

Over the last 30 years we have developed a number of outstanding alloys in cooperation with the Thyssen company Edelstahl Witten-Krefeld GmbH. Wirobond[®] C, the metalto-ceramic alloy containing no nickel or beryllium, is a proof of our expertise in the field of metal ceramics.

A broad spectrum of dental needs can be covered using Wirobond[®] C. Even when it comes to difficult situations – such as with large bridge sizes – you are always on the safe side.

Carbon is limited to a maximum of 0.02%, thus providing excellent corrosion resistance of Wirobond[®] C and optimised for laser welding with Wiroweld.

Specifications that speak for themselves

Wirobond[®] C's foremost feature is its excellent corrosion resistance. After the casting process, chrome, molybdenum and tungsten having the highest degree of purity ensure formation of a dense, firmly adhering passive layer that provides reliable protection against corrosion, thus guaranteeing biocompatibility.

This, and the fact that Wirobond[®] C has no cytotoxic potential and does not cause skin irritations or allergic sensitisation, have been substantiated by an independent testing institute. We will gladly send you a copy of the certificate on request.

The modulus of elasticity – crucial for the load capacity of crown and bridge design – is roughly twice that of precious metal alloys. This means double protection against deformation through masticatory forces. High heat resistance and low thermal conductivity are further properties of this alloy that offer convincing advantages to dentists, dental technicians and patients alike.

Trouble-free processing

We have developed a fully integrated system of equipment and materials for the processing of metal-to-ceramic alloys free of precious metals.

The excellent flow properties of Wirobond® C are the prerequisite for smooth and accurately fitting castings. We recommend the use of Bellavest® SH, a phosphate-bound crown and bridge investment material with a high degree of expansion. Any of the casting machines used for casting alloys – such as the Fornax® HF induction casting machine or the Nautilus® HF vacuum pressure casting machine – are suitable. The moment for casting is readily determined. Easy-to-understand work instructions are enclosed with the alloy. The compound stability with ceramical masses is exeptional good according to extensive tests with all leading ceramic masses.

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Alloy characteristics:	Standard values
Wirobond®C	
Colour	silver
Density	8.5 [g/cm³]
Melting interval	1380-1270 [°C]
Casting temperature	approx. 1470 [°C]
Coefficient of expansion 20-600 °C	14.2 [10 ⁴ K ¹]
25-500 °C	14.0 [10 ⁴ K ¹]
Ductile yield (A5)	6 [%]
Elongation limit (<i>R</i> p 0.2)	480 [MPa]
Thermal contraction solidus to room temperature	approx. 2.2 [%]
Modulus to elasticity	approx. 210,000 [MPa]
Vickers hardness (HV 10) after casting/fitring	310

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

Composition in % by weight: Co 61; Cr 26; Mo 6; W 5; Si 1; Fe 0.5; Ce 0.5; C max. 0.02

Availability and accessories:	Unit	Content	Order No.
Wirobond [®] C			
	1 pack	1000 g	50115
	1 pack	250 g	50116
Wiroweld, Co-Cr laser wire,			
containing no carbon, Ø 0.5 mm	1 pack	1.5 g	50005
Wirobond [®] soldering rods	1 pack	5 g	52622



