

WIRONIUM®**GB****Cobalt-chrome partial denture alloy (without nickel)****Processing instructions**

For further information see "Partial denture technique - a manual" (Languages: **D** **GB** **F** **E**)

CE0044
DIN EN ISO 6871-1

Safety hint

Metal dust is **harmful** to your health. When deflasking and blasting use a **suction extraction system!**

Alloy characteristics (standard values)

Biocertificate	<input checked="" type="checkbox"/>
Density [g/cm ³]	8.4
Vickers hardness (HV 10)	330
Elongation limit (Rp 0.2) [MPa]	650
Tensile strength (R _m) [MPa]	940
Ductile yield (A5) [%]	12
Modulus of elasticity approx. [MPa]	216 000
Melting interval [°C]	1340 - 1320
Casting temperature [°C]	1440

Standard analysis, % by weight (elements)

Co	63.0
Cr	29.53
Mo	5.0
C	0.17
Miscellaneous	Si, Mn, Fe, N

Modelling Always place sprues in the most solid wax-up areas, e.g. at the transition between saddle and base. Provide solid places which the melt can only reach through a thinly modelled area with an additional sprue (Ø 3 mm).

Investing and preheating Use phosphate-bonded partial-denture investment materials (Wirovest®, Wiroplus®, Wiroquick). Spray wax-up with a wetting agent such as Auofilm prior to investment and then dry or apply Wiropaint fine investment (follow processing instructions!).

Preheating temperature

for vacuum pressure casting (Nautilus®) 950 – 1000 °C,
high-frequency centrifugal casting (Fornax®) 1000 – 1050 °C,
flame centrifugal casting (Fundor) 950 – 1050 °C.
Always preheat ceramic crucible as well (exception: Nautilus®)!

Melting and casting General: Do not overheat alloy. Use only clean crucibles, one crucible per alloy. Recommendation: to enable an exact identification of each case cast new metal only.

Moment for casting:

Vacuum pressure casting (Nautilus®) – follow operating instructions for Nautilus®.

High-frequency centrifugal casting (Fornax®): Immediately after the shadow of the glow has disappeared.

Flame centrifugal casting (Fundor): Cast when the cast metal has melted and the melt moves due to the flame pressure.

After casting Critical areas - e.g. inner clasp sides and stress breakers - are to be blasted extremely carefully (Duostar or TopTec blasting units, Korox® 50 blasting material). Use fine carbide, ceramically bonded stones or BEGO sintered diamond milling tools for finishing. Polishing (Eltropol polishing unit, Wirolyt polishing liquid), rubber-polishing (BEGO rubber polisher, black) and finish-polishing (BEGO cobalt chrome polishing paste, blue). Clean thoroughly (steam clean or boil in aqua dest.).

Soldering BEGO cobalt chrome soldering rods (Order No. 52520) and Minoxyd flux (Order No. 52530) are recommended.

Laser welding Filler material: Wiroweld wire Ø 0.5 mm (Order No. 50005).

Secondary effects Such as allergies to contents of the alloy or electrochemically based reactions may very rarely occur.

Reciprocal actions In case of occlusal or approximal contact of different alloys electrochemically based reactions may very rarely occur.

Reactions In case of known incompatibilities and allergies to contents of the alloy.

Warranty Whether given verbally, in writing or by practical instructions, our recommendations for use are based upon our own experience and trials and can only be considered as standard values. Our products undergo constant further development and are therefore subject to modification regarding design and composition.