

Wironit<sup>®</sup> extra-hard

Cobalt-chrome-  
molybdenum partial  
denture alloy  
(without nickel)



### Processing instructions

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

CE 0044  
DIN EN ISO 6871-1

### Safety hint

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

GB

### Alloy characteristics (standard values)

Biocertificate	<input checked="" type="checkbox"/>
Density [g/cm <sup>3</sup> ]	8.2
Vickers hardness (HV 10)	375
Elongation limit (Rp 0.2) [MPa]	625
Tensile strength (R <sub>m</sub> ) [MPa]	910
Ductile yield (A5) [%]	4.1
Modulus of elasticity approx. [MPa]	225 000
Melting interval [°C]	1305 - 1260
Casting temperature [°C]	1420

### Standard analysis, % by weight (elements)

Co	63.0
Cr	30.0
Mo	5.0
C	max. 0.4
Miscellaneous	Si, Mn

**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<sup>®</sup>, Wiroplus<sup>®</sup>, Wiroquick). Spray wax-up with a wetting agent such as Aurofilm prior to investment and then dry or apply Wiropaint plus fine investment (follow processing instructions!).

### Preheating temperature

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

**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<sup>®</sup>) – follow operating instructions for Nautilus<sup>®</sup>.

High-frequency centrifugal casting (Fornax<sup>®</sup>): 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 EasyBlast blasting units, Korox<sup>®</sup> 50 blasting material). Use only fine carbide 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.