INSTRUCTIONS FOR USE

model-cast alloy EVO HARD C

The model casting alloy **EVO HARD C** is nickel-free, model-cast alloy on cobalt-based, with excellent corrosion resistance, high yield strength and strength even for secondary designs in combined dentures.

EVO HARD C is easy to mill and polish and complies with EN ISO 22674 type 5.

Composition :	**Properties:**
Co % : 62,5	**Density** g / cm³ : 8,2
Cr % : 30,0	**Vickers hardness** HV 10 : 375
Mo % : 5,1	**Melting interval** °C : 1260-1320
Mn % : 1,0	**Melting interval** °C : 1260-1320
Si % : 1,0	**Casting temperature** °C : ca. 1440
Elements < 1% C	**(Rp 0.2)** MPa : 620

Modulus of elasticity GPa : ca. 220

Tensile elongation (A5) % : 4,5

Tensile strenght MPa : 920

Recommendations for Use

Sprues:

Lead round wax wires with Ø 3.5-4.0 mm in direction of flow, avoid acute deflections.

Embedding:

Suitable are phosphate bonded investments for model-castings. Preheat the investment to about 950 to 1000 °C, at total plates final temperature 1050 °C. Holding time at final temperature, depending on muffle size and filling level of the oven 45 - 60 minutes. Refer to manufacturer’s instructions for use for the casting machines.

Casting:

For **EVO HARD C** use an individual ceramic crucible to prevent contamination with other alloys. Start high frequency casting as soon as the ingots have collapsed giving a uniform melt. When melting with the flame, ensure the correct setting according to the manufacturer's instructions. For melting by flame heat the ingots and give a rotary motion by use of the flame until the pressure of the flame moves the melt, avoid overheating. After cooling divest the framework and blast with corundum at a pressure of max. 4 bar.

Finishing:

Finish with ceramic bonded stones or tungsten carbide cutters. Electrolytic polishing with commercial electrolytes in dental polishing units. Cover clamps and fitting parts with covering varnish while polishing. After finishing and fitting smooth the frame with a rubber polisher and polish with suitable grinding and polishing instruments for cobalt-base metal alloys up to high gloss.

Joining technologies:

Soldering can be carried out with suitable cobalt-base-metal-solder and high temperature flux. For welding with laser use suitable Co-Cr welding wires.

Final Safety Notes

Metal dusts in principle are harmful. Use a dust extractor. Consider allergic hypersensitivities for technical personal and Patient to contents of the alloy. If it is suspected that it is incompatible with individual elements of this alloy.

Warranty These application recommendations are based on own experiments and experiences and can therefore only be regarded as guidelines. The user is responsible for the correct processing of the alloy itself.