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CE 0044

Hergestellt für/Produced for:
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Instructions for Use crowns- and bridges-alloy Realloy Base

Realloy Base is a dental alloy based on iron for crowns and bridges. **Realloy Base** is free from cadmium, beryllium and lead and fulfils the standards of EN ISO 22674 type 2 for single tooth fixed restorations, e.g. crowns or inlays without restriction on the number of surfaces.

Composition w_i		
Fe	%	47,8
Ni	%	24,3
Cr	%	21,2
Mo	%	3,3
Si	%	1,8
Cu	%	1,6
Nb, Mn	%	< 1

Properties		
Density ϱ	$g \cdot cm^{-3}$	8,0
Vickers hardness	HV 10	155
Melting range T_S - T_L	°C	1250-1340
Casting temperature T_{Cast}	°C	1400
0,2-% Yield strength $R_{p\,0,2}$	MPa	240
Modulus of elasticity E	GPa	200
Tensile elongation at break A_5	%	8,5
Tensile strength R_m	MPa	500

Recommendations for Use

Waxing-up
Prepare wax-up as usual but avoid material thickness lower than 0,35 mm. Use spacer foil or spurs paint on the spurs to compensate for the high contraction. Lead sprues indirectly. Use round wax wires for sprues with ∅ 2-2,5 mm for single crowns and ∅ 2,5-3 mm for bridges. For frames with more than 4 teeth prepare a distribution funnel with ∅ 3,5-4 mm, for massive pontics prepare a distribution funnel with up to ∅ 5 mm.

Investing and Casting
Suitable investment materials are phosphate-bounded investments for crowns and bridges. Preheat the investment to 850-900 °C and hold final temperature for 30 minutes. Follow the manufacturer's instructions for use for the casting machine. Always use an individual ceramic crucible for **Realloy Base** to prevent contamination with other alloys. Clean crucible after each use to avoid residues of slag. Do not overheat the alloy. Start casting as soon as the ingots have collapsed giving a uniform melt. For melting by flame heat the ingots and give a rotary motion by use of the flame. Start casting as soon as the bath begins to vibrate. Allow the cylinder to cool down slowly to the ambient temperature and deflask without hitting the cone.

Composite Veneering
Separation of sprues and finishing of the object with carbide cutters. Sand blast the surface by use of a pencil-blaster with aluminium oxide 100 µm or 250 µm. Ultrasonically clean the frame in distilled water or degrease with ethyl acetate or follow the cleaning instructions given by the composite veneering manufacturer. Veneering with composites or light-curing composites is recommended. Follow the manufacturer's instructions for the veneering process.

Finishing
After veneering, polish the frame with suitable grinding and polishing instruments for dental alloys up to high gloss.

Soldering and Welding
Soldering of the frame can be carried out with commercially available solders und high temperature flux. The width of the solder gap should be 0,05-0,2 mm. For welding with laser use suitable commercially available metal welding wires.

Safety Note
Metal dusts are harmful to health. Use a dust extractor. Consider allergic hypersensitivities to contents of the alloy. In case of suspected incompatibility with individual elements of this alloy, this should not be used. Product contains nickel!

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


Caution!

Batch number


Refer to instructions for use


Manufacturer


Not for reuse