



PRODUCER OF SPECIAL ALLOYS SINCE 1975

MAGNUM SOLARE CE 0123

Cobalt based dental alloy for ceramic, Type 4\* (\*According to ISO 22674:2016)

The alloy MAGNUM SOLARE is distinguished by an outstanding fluidity, which allows the alloy to fill even the thinnest details of the frame, down to three tenth of a millimeter (3/10mm). Its molecular structure allows you to obtain a smooth, compact surfaces with little oxide formation even after repeated oven treatment and it's thermal expansion coefficient is idea for every ceramic of the latest generation.

MAGNUM SOLARE is produced in conformity with standards ISO 9693:2012 & ISO 22674:2016, it is highly corrosion resistant and it does not contain Nickel and is completely free of toxic elements like beryllium, indium and gallium.

MAGNUM SOLARE is also supplied in discs for CAD/CAM manufacturing.

### INSTRUCTIONS FOR USE

#### *Modeling*

Modeling with a minimum thickness of 0.3mm on simple structures and 0.5 in complex cases or with patients with bruxism. Avoid elbows.

#### *Casting Sprues*

Direct pinning: Pin:  $\varnothing$  3mm, Nourice  $\varnothing \geq 6$ mm

Indirect pinning with stabilizer bar: Pin  $\varnothing$  3mm, Bar  $\geq 5$ mm, Casting Sprue  $\geq 6$ mm

#### *Casting*

Cast MAGNUM SOLARE alloys in pre-heated and cleaned ceramic crucibles used for this alloy only. Each should have its own crucible; do not overheat the alloy and no use the flux.

Reach a temperature between 850- 950°C; maintenance time in pre-heated oven depends on investment characteristics and on the dimensions of the cylinder.

Induction Casting: Start the casting when the cylinders melt together and just before the superficial crust opens.

Open Flame Melting: place ingots in the pre-heated ceramic crucible and heat them evenly with circular movements. When ingots have melted, start centrifugal unit. Use multi-flame welding torches only. Do not use any flux.

Indicative values for flame regulation:

Acetylene 0.4 bar/ Oxygen 2 bar  
Propane 0.2 bar/Oxygen 2 bar

#### *Manufacturing*

Let the cylinder cool down to room temperature, remove the investment and sandblast with aluminum oxide between 110 to 150 um at a pressure of 3-4 bar. It is recommended a homogenization and degassing treatment be carried out on the casted piece at 1000°C for 10 minutes in atmosphere. Continue manufacturing process using tungsten carbide burs. The worked framework has to be sandblasted with disposable equipment in aluminum oxide of 110-150um at a max pressure of 3-4 bar and then steam clean. After cleaning the framework should not be touched anymore and should be held with hemostatic forceps only.

#### *Oxidation*

Fire for 5 min. under vacuum at 950-980°C. After firing, the oxide layer has to be carefully sandblasted using disposable oxide-aluminum equipment 110-150um at a pressure of 2.5-4 bar. Steam and check that the surface has an homogeneous grey surface.

#### *Re-use of Sprues*

The best results are obtained with pure MAGNUM SOLARE. It is nonetheless possible to re-use sprues and cones only once, given that new metal from the same lot is added in equal quantity.

#### *Ceramization*

It's possible to use Bonding. Apply the ceramic, following its manufacturer's instructions. Slow cooling is recommended.

#### *Soldering*

We suggest using our MAGNUM MAGNUM SALDATURA Co to weld.

#### *Waste Disposal*

The processing scrap must be disposed of as a special waste in accordance with the EG directive 2008/98/CEE on waste, and 94/62/CEE on packaging and packaging waste and in compliance with national legislation in force on the subject.

## SAFETY INSTRUCTIONS

- Cobalt-Chrome based alloys can seldom cause dermatitis on sensitive subjects. A patch-test is thus advisable.
- Metals dusts and smoke are dangerous for health. Use exhaust fans while casting and polishing.
- Before prosthesis application verify if other metals implants are in patients oral cavity. Coexistence of different metals cause a “pile” effect.
- We identify every bath with a number. We recommend to write it down in patients file to allow its complete traceability.
- This product does not need any special preservations precautions. MESA keeps batch traceability for 15 years.
- It is recommended that the patient be made aware of the possibility for dental alloys to affect MRI Results

### Exclusive Distribution of MESA alloys in Malaysia by:



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