



PRODUCER OF SPECIAL ALLOYS SINCE 1975

MAGNUM CERAMIC S CE 0123

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

The alloy MAGNUM CERAMIC S 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 over treatment and it's thermal expansion coefficient is ideal for every ceramic available today.

MAGNUM CERAMIC S is produced in conformity with standards ISO 22674:2016 & ISO 9693:2012, it is highly corrosion resistant and is free of toxic elements like beryllium, indium and gallium.

#### INSTRUCTIONS FOR USE

##### *Modeling*

Keep a thickness not less than 0.3mm on simple structures and 0.5mm in complex cases or with patients with bruxism. Avoid elbows.

##### *Casting Sprues*

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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 CERAMIC S 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 an homogenization and degassing treatment of 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 CERAMIC S. 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 Ni-Cr 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**

### **CAUTION: This product contains nickel.**

- Nickel based alloys can 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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