



Heimerle + Meule Group



Cookson Precious Metals Ltd,  
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Cookson Drijthout BV  
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**Device Name:** MATTICRAFT BIO NC

**Device Type:** Pale Yellow – High Strength Bonding Alloy (High Biocompatibility)

**Indications:** TYPE 3: for multiple unit fixed prostheses.

**Free from Be, Cd, Ni, Si and C.**

**Intended Use:** Fabrication of custom-made dental restorations

**Intended Patients:** Any (no restriction on patient characteristics)

**Intended Users:** Dental laboratory technicians.

**There are no specific contraindications, warnings, or precautions for patients, though see composition if patient allergies are known or suspected.**

There are no special storage requirements for this material.



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## Technical Data

<b>Density</b>	19.2 g/cm <sup>3</sup>	
<b>Composition</b>	Au 78.1% Pt 19.5% Ag 0.8% In 1.0% Others <1.0% Zn	
<b>Melting Range</b>	1060 - 1230°C	
<b>Elongation</b>	25%	After simulated porcelain firing
<b>0.2% Proof Stress</b>	300MPa	
<b>Coefficient of Thermal Expansion</b>	14.4 x 10 <sup>-6</sup> K <sup>-1</sup> (25 - 500°C) 14.5 x 10 <sup>-6</sup> K <sup>-1</sup> (25 - 600°C)	
<b>Casting Temperature</b>	1330°C	
<b>Casting Ring Pre-Heat</b>	850°C for 40 minutes.	
<b>Solders: Pre-Bonding</b>	Mattiflo 1025Y	
<b>Flux: Post-Bonding</b>	Mattiflo 715Y	
<b>Typical Applications</b>	All metal - ceramic work Crowns, Inlays and Onlays Cast or machined attachments	
<b>Typical Porcelains</b>	Vita VMK, Doric Universal, Duceram	

## Additional Information

**Disposal / Re-Use Considerations:** Clean scrap can be reused to make further restorations, however alloys that have been used on patients should not be reused to minimize contamination risk. Once appropriately cleaned, precious metal alloys may be sent for recycling.

**In the event of a defective device** Contact Cooksongold on +441212338170.  
If the defect has only become apparent after the alloy has been used on a patient, then also contact the competent authority of the Member State in which the patient is established (refer to [https://ec.europa.eu/health/md\\_sector/contact\\_en](https://ec.europa.eu/health/md_sector/contact_en))

**Summary of Safety and Clinical Performance (SSCP)** The Summary of Safety and Clinical Performance (SSCP) is available on request and can also be found at <https://ec.europa.eu/tools/eudamed> by searching for the Basic UDI-DI 5057531 ALLOYTL (when the website is operational).

## DIRECTIONS FOR USE

### WAXING

A minimum wax thickness of 0.2 mm for single crowns and 0.4 mm for multiple units is recommended. The connection area of abutments must be greater than 3 mm x 3 mm. Sprue each unit individually with 3 mm wax rods. Reservoir bars should be a minimum of 4 mm in diameter and vent rods 1 mm if used. Avoid sharp joints and ensure all shoulders and edges are well rounded. Stress relieve the wax pattern by immersing it in water at 32°C for 5 - 10 minutes.

### INVESTMENT

Although under normal conditions **MATTICRAFT BIO NC** is not sensitive to carbon contamination, Graphite / carbon free investment is recommended to avoid any potential bonding problems.

The wax pattern should be invested according to the manufacturer's instructions.

### BURN OUT AND PRE - HEAT

Follow normal procedures for wax burn out and then heat the investment according to the manufacturer's instructions. Heat soak the casting ring for a minimum of 40 minutes at 850°C. Time necessary to successfully heat soak the casting ring increases with size.

### CASTING

Always melt **MATTICRAFT BIO NC** in ceramic crucibles.

Clean scrap may be reused provided a minimum of 50% new metal is in the charge. NEVER reuse metal if contamination with carbon or other alloys is suspected. A little Tenacity 125 flux added to the melt immediately before casting will improve overall cleanliness. Ensure the alloy is fully liquid and spinning before casting. The time taken to reach both melting and casting temperature must be kept to a minimum and the alloy cast promptly. Over heating the metal results in miscasts and porosity. If using an oxy-propane torch to melt the metal, the flame must be correctly adjusted to avoid contamination by carbon.

Allow the castings to bench cool. DO NOT quench the metal as this may cause fitting problems later on.

Break out the metal and clean by brushing or by sand blasting with non-recycling aluminium oxide. Prepare the surface of the metal with pink or brown stones kept solely for use on **MATTICRAFT BIO NC** Use of worn diamond stones or those used for other alloys causes bonding problems due to contamination.

Finally clean the castings in steam, acetone or by ultrasonic cleaner. The use of strong acids such as HF is not advised.

### DEGASSING AND OXIDATION

These two procedures can be combined by heating at 960°C for three minutes in vacuum followed by further heating at 960°C for ten minutes in air. Correctly oxidised, **MATTICRAFT BIO NC** should have a uniform light grey colour. If patchy, strip the metal and re-oxidise. Should the problem persist, contact the sales office for advice.

Following the above method the castings should be cleaned in hot water or by ultrasonic cleaner prior to the porcelain being applied.

#### **PORCELAIN APPLICATION**

Porcelain bonding will benefit from the application of a pre-opaque wash. Both this and Porcelain application should be carried out as specified by the supplier and with consideration to the furnace used.

**MATTICRAFT BIO NC** requires a short cooling cycle after porcelain firing.

#### **SOLDERING**

Use Mattiflo 1025Y for soldering prior to applying the porcelain.

Post bonding can be carried out using Mattiflo 715Y.

**Caution:** *Suitable protective clothing and the wearing of safety glasses is recommended when melting this product.*

#### **INDICATIONS**

With a gold and platinum content of over 97.5 %, **MATTICRAFT BIO NC** offers superior Biocompatibility and is recommended in all cases where the potential for allergic response must be kept to a minimum.

The alloy is also recommended for constructions where heavy milling is required or if attachment parts are being cast and high strength in thin section is essential.