



Heimerle + Meule Group



Cookson Precious Metals Ltd,  
59-83 Vittoria Street, Birmingham, B1 3NZ, UK



Cookson Drijthout BV  
Keienbergweg 12 1101 GB Amsterdam

**Device Name:** MATTICRAFT E

**Device Type:** Ivory Coloured  
General purpose Bonding Alloy

**Indications:** TYPE 4: For appliances with thin sections that are subject to very high forces, e.g. removable partial dentures, clasps, thin veneered single crowns, full arch fixed dental prostheses or those with small cross-sections, bars, attachments, implant retained superstructures.

**Free from Be, Cd, Ni, 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.



g

**LOT**

**REF**

ZCE 000

## Technical Data

<b>Density</b>	17.8 g/cm <sup>3</sup>	
<b>Composition</b>	Au 78.0% Ag 1.1% Pt 9.6% Pd 8.6% In 1.7% Others <1.0%    Cu, Fe, Sn	
<b>Melting Range</b>	1180 - 1240°C	
<b>Elongation</b>	20%	After simulated porcelain firing
<b>0.2% Proof Stress</b>	480MPa	
<b>Coefficient of Thermal Expansion</b>	14.3 x 10 <sup>-6</sup> K <sup>-1</sup> (25 - 500°C) 14.4 x 10 <sup>-6</sup> K <sup>-1</sup> (25 - 600°C)	
<b>Casting Temperature</b>	1390°C	
<b>Casting Ring Pre-Heat</b>	850°C for 40 minutes.	
<b>Solders: Pre-Bonding</b>	Mattiflo 1110W	
<b>Flux: Post-Bonding</b>	Mattiflo 715Y	
<b>Typical Applications</b>	Single units, Multiple units, Long spans	
<b>Typical Porcelains</b>	Vita VMK, Doric Universal	

## Additional Information

<b>Disposal / Re-Use Considerations:</b>	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.
<b>In the event of a defective device</b>	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 <a href="https://ec.europa.eu/health/md_sector/contact_en">https://ec.europa.eu/health/md_sector/contact_en</a> )
<b>Summary of Safety and Clinical Performance (SSCP)</b>	The Summary of Safety and Clinical Performance (SSCP) is available on request and can also be found at <a href="https://ec.europa.eu/tools/eudamed">https://ec.europa.eu/tools/eudamed</a> 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 0.5 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

Only use suitable high temperature investment powders that are described as graphite or carbon free. Invest the wax pattern 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 E** 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.

### CLEANING

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 E** Use of worn diamond stones or those used for other alloys causes bonding problems due to contamination.

Heavy milling is not recommended.

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 E** should have a uniform grey colour. If patchy, strip the metal and re-oxidise.

Lighter porcelain shades can be achieved whilst retaining bonding strength by degassing the metal, oxidising, stripping away the oxide layer by sand blasting with 125µm aluminium oxide, and applying a pre-opaque wash to the clean metal surface. Following one of the above methods the castings should always 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 E** requires a short cooling cycle after porcelain firing.

#### **SOLDERING**

Solder prior to porcelain firing using Mattiflo 1110W.

Post bonding soldering is carried out using Mattiflo 715Y.

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