Heimerle + Meule
Heimerle + Meule Group

High Gold Content Cast Alloy, Type 4
free of copper

PLATINOR® CF 4

acc. to DIN EN ISO 22674

Item no.	7328 3 001
Delivery form	Casting plates
Indication	Plastic veneering, inlays, onlays, crowns large span bridges milling-, cone- and telescope technique model casting

QM-System certified
according to DIN EN ISO 13485
for medical products

CE 0483

Alloy: Au 69 Ag 18 Pd 6

Type	Colour	Density g/cm³	Composition content in % (m/m) (x=<1.0%)									
			Au + Pt metals	Au	Pt	Pd	Ir	Ag	Zn			
4	yellow	15.6	79.0	69.0	4.0	5.9	X	17.7	3.3			

The alloy is free of Ni, Co, Cr, Be, Cd

Technical data

Vickers hardeness HV 5/30				0.2% proof stress MPa			Elongation %			Modulus of elasticity MPa	Melting Range ° C	Preheating Temp. ° C	Casting Temp. ° C	Annea-ling ° C min.	Hardening ° C min.	
g	w	a			w	a		w	a							
200	150	230			370	625		18	8	94.000	995-1100	750	1230	750° 10	400° 15	

g = after casting, w= weak , a = hardened

Solders

Application	Solder	Working temp. °C	Composition content in % (m/m) (x=<0.1%)								Colour
			Au	Pd	Ir	Ag	Zn	Sn	In		
Primary solder	PLATINOR® CF-Lot 1	840	55.0	4.1	X	30.7	4.4	2.4	3.4		yellow
Secondary solder	PLATINOR® CF-Lot 2	800	52.0	2.6	x	35.2	4.4	2.4	3.4		yellow

Instruction for use

Heimerle + Meule
Heimerle + Meule Group

Instruction for use PLATINOR® CF 4

1. Modelling

Create an anatomically reduced wax model, considering the planned facing. Sharp edges are to be avoided, soft level crossings are to be striven at.
Due to stability reasons, care has to be taken at bridge frames to achieve solid modulation of the connections and in the case of larger spans to create palatal and interdental strength of the connecting parts. Wall thickness of the modelled (waxed) single crowns at least 0.4 (0.3) mm, bridge pillar crowns at least 0.5 (0.4) mm.

2. Spruing System

Single crown:

Direct spruing with casting channel	at least Ø 3.5 mm

From 2 single crowns on and bridges:

Running bars or rings with object spruing	3.0 x Ø 3.0 mm
running bars/rings	Ø 4.0 – Ø 5.0 mm
casting channels	Ø 3.5 – Ø 4.0 mm

3. Position of the Wax Model in the Investment Mould

Distance from the mould wall:The units should have at least 5-10 mm distance from the mould wall.
Distance from the mould bottom: Direct spruing between wax units and mould bottom a distance of 10 – 15 mm has to be kept. Investment of running bars or rings: the middle of the running bar or ring should cover the middle of the mould.

4. Investment

Cover investment mould with investment ring spacer.
Investment mould X1 / X3: 1 layer
Investment mould X6 / X9: 1 – 2 layers
Cast bonded as well as phosphate bonded investment material can be used. The investment material manufacturer's instructions for use have to be complied with.

5. Burnout / Preheating

Conventional heating: the first preheating step at approx. 280 °C has to be hold according to the mould size for respectively 30/40/50/60 min.; further heating steps in compliance with the investment material manufacturer's instruction for use. After reaching the final temperature (see data sheet), the holding time is according to the mould size respectively 20/30/45/60 min. If handling a greater number of moulds, the preheating time has to be extended accordingly.
Speed heating: The instructions of the manufacturer of the investment material have to be complied with strictly.

6. Crucible Material

Graphite and ceramic crucibles can be used.

7. Casting Units

All common melting and casting units can be used.

8. Casting

Check data sheet for casting temperatures.
Further heating times after reaching the liquidus temperature according to the quantity of material used and unit output.

Resistance heating	20 – 60 sec.
High frequency	5 – 10 sec.
Propane / oxygen torch	5 – 10 sec.

In the case of torch melting, pay attention to the correct setting of the torch (danger of carbon damage) and melt with the reduced zone.

9. Casting Residues

In order to preserve the alloy characteristics and the casting quality, no more than 50 % cleaned casting residues should be used.
The weight used is calculated from: wax weight x alloy density (see Heimerle + Meule calculation sheet).

10. Cooling and Divestment

Let mould cool down to hand temperature and carefully divest. This avoids deviations in fitting, change of alloy characteristics, and hot fissures. Sandblast with white corundum (approx. 100 µm) or with an market pickling agent to remove the investment material.

11. Finishing and Cleaning

Finish frame with tungsten carbide burs and ceramic bonded milling tools with only little pressure; then sandblast surface with aluminium oxide (approx. 100 µm) at low pressure (max.2 bar), then polish it. Polishing residues must be completely removed, e.g. steamclean and degrease it with a suitable pickling agent (e.g. AMISUL). During grinding sufficient protection against dust inhalation has to be taken

12. Soldering

Soldering areas have to be sufficiently big and should be considered during modulation already.
Soldering areas have to be metallically blank.
The solder gap should be 0.05 – 0.2 mm.
Recommended soldering

investment material:	DUROCONT L	
Recommended flux material:	Universal soldering paste ARGOFLUX	
Primary solder:	PLATINOR® CF-Lot 1	840 °C
Secondary solder:	PLATINOR® CF-Lot 2	800 °C

Slowly cool down the soldering object.

13. Hardening

After casting or soldering the alloy shows a sufficiently high density for its area of indication. If required, the maximum hardening can be reached through final tempering in accordance to the data sheet.

14. Pickling

Remove flux residues or oxides by pickling in AMISUL at about 80 °C or by sandblasting. Then flush the object with water.

15. Veneering with plastic

For the veneering with plastic please observe the instructions of the manufacturer of the plastic.

16. Polishing

Final Polishing can be effected with pastes, brushes, buffing wheels and felt.