Esteticor Avenir®

Instructions for use

High Gold Metal Alloy for the Ceramic-fused-to-metal Technique

Mixing of different alloys or alloys of similar types is not allowed!
Wear darkened eye protection and protective gloves when melting.
Protect eyes, hands and breathing when pickling.
Protect eyes and breathing during processing with rotating instruments with an aspirator device.

With the publication of these instructions of use all previous editions are no longer valid.

The manufacturer refuses any liability for damages due to disregard of the instructions for use below.

Directions for High Gold Metal Alloys for the Ceramic-fused-to-metal Technique
These alloys have been proven for years and are distinguished by their fine-grained cast structure, their excellent corrosion resistance, their biocompatibility and their ease of processing. The high Au and Pt-group metal contents of the alloys in this group allow problem-free soldering; they are also well suited for the casting-on technique incorporating prefabricated attachments for combined work.

General instructions for use

Modelling
Usual modelling technique for ceramic-fused-to-metal works. Minimal wall thickness 0.4 mm. With bridgework the connections must have a minimum section of 6–9 mm^2. Modelling of garlands or inlay shaped reinforcements in the palatinal region will give added stability.
The application of air and cooling vents improves casting results.

Investing
The following investments are recommended for this type of alloys:
Cendres+Métaux-**Ceramicor**® (phosphate-based, containing graphite)
CM-20 (based on quartz and cristobalite without graphite for the rapid preheating technique).
Plaster-based investments must not be used for these types of alloys!

Re-use of alloy
Only use perfectly cleaned (by sand-blasting with aluminium oxide) buttons and sprues and add **at least ⅓ of new alloy.**

Traceability of lot numbers
If different lots of an alloy are being used for the realisation of a restoration, all lot numbers concerned must be noted in order to assure traceability.

Surface quality of cast objects
In order to prevent corrosion the cast object must have a surface free of shrink holes and porosities after trimming and polishing.

Cooling of castings
Do not quench the casting cylinder after casting, but bench cool to room temperature.

Pickling
After firing or soldering pickle in a warm, freshly prepared (clean) solution of 10 vol. % sulphuric acid (H_2SO_4)
Note: When using other pickling agents follow the instructions for use of the respective manufacturer.

Gilding of frameworks
Gilding is carried out at the user's own risk.

Polishing
After the last firing free metal surfaces must be polished to a high shine in order to completely remove the oxide layer.

Disinfection
Each prosthetic restoration must be cleaned and disinfected before try-in or definite insertion in the mouth of the patient.

Further information
on processing precious metal alloys, soldering and casting-on are included in the Dental documentation of Cendres+Métaux and in the website www.cmsa.ch/dental.

Allergies
With patients having an existing allergy to one or several elements contained in any one alloy, this particular alloy must not be used.
With patients suspected of having an allergy to one or several elements contained in any one alloy, this alloy can only be used after preliminary allergological testing and proof of a non-existing allergy.

Rx only

The products carry the CE sign.
See packaging for details.

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Esteticor Avenir®

Physical and mechanical properties

Alloys	Indications a	b	c	d	e	f	Colour	Composition in weight % Au- + Pt-Met.	Au	Pt	Pd	Ag	Cu	Sn	Zn	In	Ga	Ir	Ru	Re	Fe	Ta	Solder ① Before firing	Solders ① After firing
Esteticor Avenir®	✓	✓	✓	✓	✓		Pale yellow	97.40	84.00	10.90	2.40	0.20			2.20			0.10			0.20		S.G 1030	S.G 810/S.G 750

ISO 22674 / ISO 9693

Indications a  Inlays, onlays b  Single crowns c  Short-span bridgework d  Long-span bridgework e  Milled work f  Clasps, lingual bars, palatinal plates

① The use of solders not mentioned in the table is subject to the user's risk. In case of uncertainties, consult the instructions of the manufacturer involved.

Alloys	Density g/cm³	Melting range °C	Casting temp. °C	Crucible	Hardness as cast HV5*	annealed HV5*	after firing HV5*	hardened HV5*	Young's Modulus GPa*	0.2 % proof stress, Rp 0.2 % as cast MPa*	annealed MPa*	after firing MPa*	hardened MPa*	Elongation A5 as cast %*	annealed %*	after firing %*	hardened %*	Linear coefficient of thermal expansion CTE (25–500 °C) $10^{-6}K^{-1}$	(25–600 °C) $10^{-6}K^{-1}$
Esteticor Avenir®	18.7	1055–1185	1285–1335	❶❷❸	210		255		100	520		670		6		6		14.3	14.6

❶ Graphite crucible ❷ Universal ceramic crucible ❸ Vitrified carbon crucible
* The values indicated result from measurements obtained under exactly defined conditions. Individual deviations of ± 10 % are possible and to be considered as normal.

Particular instructions for use

Alloys	Preheating temperature	Recommended casting systems (not compulsory) Propane-oxygen flame	Vacuum-pressure casting with electric resistance furnace	Centrifugal casting with electric resistance furnace	High frequency induction in atmosphere	High frequency induction in protective gas atmosphere	Trimming of the framework surface with ceramically bonded grinding stones
Esteticor Avenir®	800 °C	✓	✓	✓	✓	✓	✓

Alloys	Sandblasting with non-recycled aluminium oxide (Al_2O_3) 50 µm	Cleaning with steam jet	Oxide firing with vacuum	without vacuum	Pickling after oxide firing in a warm and clean solution of 10 vol. % sulphuric acid (H_2SO_4)
Esteticor Avenir®	✓	✓	900 °C / 10 min		✓

Alloys	Special indications for veneering with ceramic compounds Slow cooling	Normal cooling	Rapid cooling	Heating rate max.	Tested compatible ceramic compound	**Other ceramic compounds**
Esteticor Avenir®		✓			VITA VMK 95 / IVOCLAR IPS d'SIGN	The alloy is compatible with the usual high fusing ceramic compounds. In case of doubt, consult the instructions of the ceramic manufacturer concerned.