Esteticor® Ecologic

Instructions for use

Universal precious metal alloy for veneering with low-fusing ceramic having a high coefficient of thermal expansion or with dental resin

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With the publication of these instructions of use all previous editions are no longer valid.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

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 mm². 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).

Reuse of alloy
Only use perfectly cleaned (by sandblasting with aluminium oxide) buttons and sprues and add at least 1/3 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.

Melting
Esteticor® Ecologic can be molten and cast with all recommended casting systems. Contrary to alloys with a higher gold content, this alloy needs a longer time-span for a complete and thorough melting of all components.

Note: Please follow the exact instructions concerning melting and holding time prior to casting on the table overleaf.

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 (H₂SO₄).

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 an alloy, this particular alloy must not be used. With patients suspected of having an allergy to one or several elements contained in an 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.
## Physical and mechanical properties

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Indications</th>
<th>Colour</th>
<th>Composition in weight %</th>
<th>Solder before firing</th>
<th>Solder after firing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esteticor® Ecologic</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>Light yellow</td>
<td>Au: 49.00, Pt: 32.00, Pd: 2.00, Ag: 15.00, Cu: 42.00, Sn: 9.00</td>
<td>S.G 920</td>
<td>S.G 700</td>
</tr>
</tbody>
</table>

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

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.

## Alloy Density Melting range Casting temp. Crucible Hardness as cast HVS* annealed HVS* after firing HVS* harne ned HVS* Young’s Modulus 0.2 % proof stress, Rp 0.2 % after firing MPa* annealed MPa* harne ned MPa* Elongation A5 as cast % annealed % after firing % annealed % Linear coefficient of thermal expansion CTE (25 – 500 °C) 10^-6 K^-1

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Density g/cm³</th>
<th>Melting range °C</th>
<th>Casting temp. °C</th>
<th>Crucible</th>
<th>Hardness as cast HVS*</th>
<th>annealed HVS*</th>
<th>after firing HVS*</th>
<th>harne ned HVS*</th>
<th>Young’s Modulus GPa*</th>
<th>0.2 % proof stress, Rp 0.2 % after firing MPa*</th>
<th>annealed MPa*</th>
<th>harne ned MPa*</th>
<th>Elongation A5 as cast %</th>
<th>annealed %</th>
<th>after firing %</th>
<th>annealed %</th>
<th>Linear coefficient of thermal expansion CTE (25 – 500 °C) 10^-6 K^-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esteticor® Ecologic</td>
<td>12.7</td>
<td>990 – 1065</td>
<td>1250</td>
<td>Universal ceramic crucible</td>
<td>190</td>
<td>180</td>
<td>220</td>
<td>95</td>
<td>435</td>
<td>360</td>
<td>515</td>
<td>535</td>
<td>7</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>17.0</td>
</tr>
</tbody>
</table>

*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

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Recommended investments</th>
<th>Preheating temperature</th>
<th>Recommended casting systems (not compulsory)</th>
<th>High frequency induction in atmosphere</th>
<th>Average holding time after melting prior to casting in seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esteticor® Ecologic</td>
<td>Phosphate based investments</td>
<td>800°C</td>
<td>✓</td>
<td>✓</td>
<td>1) + ● = 10–15 s</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2)</td>
<td></td>
<td>2) 3) + ● = 30–45 s</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3)</td>
<td></td>
<td>4) 5) + ● = 10–15 s</td>
</tr>
</tbody>
</table>

#### 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
- Average holding time after melting prior to casting in seconds
- Average holding time after melting prior to casting in seconds
- Average holding time after melting prior to casting in seconds
- Average holding time after melting prior to casting in seconds

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Thermal treatment of the framework before surface treatment (not compulsory)</th>
<th>Trimming of the framework surface with ceramically bonded grinding stones</th>
<th>Annealing (for inlays, onlays)</th>
<th>Hardening</th>
<th>Other ceramic compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esteticor® Ecologic</td>
<td>820 °C / 10 min / air</td>
<td>±</td>
<td>850 °C / 30 min / H₂O</td>
<td>820 °C / 15 min / air + 400 °C / 15 min / air</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>±</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>±</td>
<td>860 °C / 10 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>±</td>
<td></td>
<td>400 °C / 15 min / air</td>
<td></td>
</tr>
</tbody>
</table>

#### Alloy Tested compatible ceramic compound
- Special indications for veneering with ceramic compounds
- Rapid cooling
- Heating rate max.

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Tested compatible ceramic compound</th>
<th>Slow cooling</th>
<th>Normal cooling</th>
<th>Rapid cooling</th>
<th>Heating rate max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esteticor® Ecologic</td>
<td>EVOLUTION</td>
<td>✓</td>
<td></td>
<td></td>
<td>60 °C / min</td>
</tr>
<tr>
<td></td>
<td>DUCERAGOLD</td>
<td>✓</td>
<td></td>
<td></td>
<td>60 °C / min</td>
</tr>
<tr>
<td></td>
<td>CARRARA VINCENT</td>
<td>✓</td>
<td></td>
<td></td>
<td>60 °C / min</td>
</tr>
<tr>
<td></td>
<td>VITA RESPONSE</td>
<td>✓</td>
<td></td>
<td></td>
<td>60 °C / min</td>
</tr>
</tbody>
</table>

The alloy is compatible with the usual low-fusing ceramic compounds. In case of doubt, consult the instructions of the ceramic manufacturer concerned.