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SHERAHEAVY-METAL

Instructions for Use

MD CE 0123

Dental Casting Cobalt-Based Alloy, Type 5, Cylindrical Form

1. Indications

For the manufacture of casted partial dentures and combination protheses for removable prosthetics. For use by qualified personnel. SHERAHEAVY-METAL is DIN EN ISO 22674 certified as "free from nickel, beryllium, and cadmium".

2. Contraindication

Not for use with ceramic veneers.

3. Adverse Effects

In rare cases, alloy component allergies or electrochemically induced sensory disturbances are possible. In the event of existing allergies or incompatibilities with alloy components, the alloy should not be used. In rare cases, cobalt-based alloys can cause skin irritation with persons with sensitivities. A patch test is recommended.

4. Safety Instructions

Metal dust and smoke are harmful to health. Metal dust and smoke are harmful to health. Cobalt is classified as carcinogenic, toxic to reproduction, possibly mutagenic, respiratory and skin sensitising. A suitable extractor system should be used when melting or sandblasting. We also recommend type FFP3-EN149 respiratory protection. The presence of other metal implants in the oral cavity must be assessed before fitting the dental prosthesis. Various types of metals together can trigger what is known as the "memory effect". It is recommended that patients are informed that dental alloys may influence MRI results.

5. Processing Instructions

Contouring/Pin Placement

Pay attention to suitable cross-sectional contouring. Attach the casting sprues in accordance with generally applicable dental guidelines.

Embedding/Preheating

Only use phosphate-bound investment. Follow the instructions of the investment manufacturer. We recommend a preheating temperature of 900 - 950°C.

Melting

Only use clean and new ceramic-based crucibles for each casting process (magnesium oxide, silicon oxide, aluminium oxide),
Do not add smelting powder!

Induction / High-Frequency Casting Process

Pre-melt the metal until it collapses. Place the muffle in the casting unit and continue melting. The casting process takes place after the molten surface tears open.

Flame Casting

Smelt the metal using the low-oxygen flame zone. The optimal casting time is when the smelted metal has a mushy texture and can be moved by the flame.

Deflasking

The best alloy structure is achieved when the muffle can cool down to room temperature.

Residual embedding compound can be removed with tongs/hard plaster cutting pliers. Do not hit the cone.

6. Technical Values

Vickers Hardness Test HV1 (N/mm²)	360
Density (g/cm³)	8.2
Tensile Strength (N/mm²)	800
0.2 Proof Stress (N/mm²)	650
Elongation at Rupture (%)	5
Modulus of Elasticity (N/mm²)	220,000

7. Temperatures (°C)

Muffle Preheating Temperature	900 - 950
Solidus Point	1,270
Liquidus Point	1,400
Casting Temperature	1,500

8. Material Composition (%)

Chrome	28.0
Cobalt	64.0
Molybdenum	6.0
Other elements below 1%	C, Fe, Mn, Si, Nb, N

9. Soldering/Laser Welding

For soldering, we recommend the SHERALOT-N solder bar.
For laser welding, we recommend the use of SHERA LASER WELDING WIRE. Available in 2-meter coils and 0.35 mm or 0.5 mm thickness.

10. Storage

No special requirements.

11. Batch Traceability

Each batch comes with a batch number (LOT). Record this number in the documentation of each patient to ensure traceability. Only use new metal to ensure definitive traceability.

12. Disposal

Dispose of contents/ container in accordance with local regulations.

13. Guarantee

SHERA Werkstoff-Technologie GmbH & Co. KG is DIN EN ISO 13485 certified and guarantees excellent product quality using a comprehensive quality assurance process. Our user recommendations are based on the benchmark values obtained at our test laboratory. These values can only be guaranteed when adhering to the listed processing phases. The user assumes the responsibility for the processing of the product. We assume no liability for incorrect results as SHERA has no influence over how the product is processed after manufacture. Possible compensation claims are limited solely to the value of our product.
Serious incidents must be reported to SHERA Werkstoff-Technologie GmbH & Co. KG as well as the competent authorities.

Explanation of symbols:

Observe the operating instructions | Cannot be reused | LOT Batch-number | REF Part-number | MD Medical-product | Date of manufacture | Manufacturer

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