

CONCEPTLASER

a GE Additive company

remanium star CL powered by Dentaureum

CoCrW-alloy (powder) acc. to EN ISO 9693 / DIN EN ISO 22674, Type 5

CE 0483

With an appropriate approval* remanium star CL can be used for production of metallic restorations by means of the metal laser melting process.

27
Co
58,933

RANGE OF APPLICATION

With an appropriate approval* remanium star CL can be used for production of crowns and bridges, frames for metal ceramic veneering, cast partials, primary – and secondary parts for combined restorations.

CHEMICAL COMPOSITION

Component	Mass (%)
Co	60,5
Cr	28
W	9
Si	1,5
Other elements <1 %: Mn, N, Nb, Fe. free from nickel, beryllium and gallium	

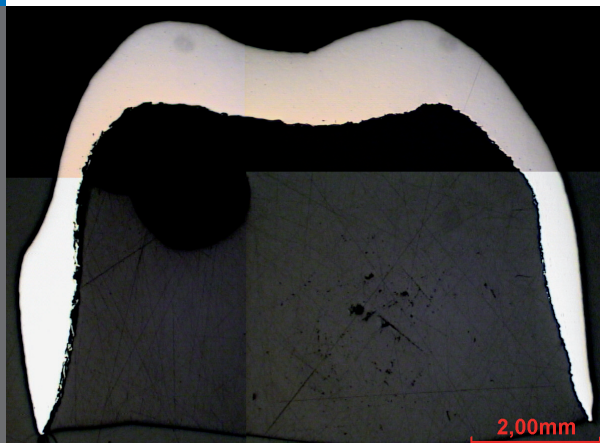
TECHNICAL DATA IN LINE WITH DIN EN ISO 9693 / DIN EN ISO 22674 AFTER RECOMMENDED HEAT TREATMENT

	90° (horizontal)	45° (polar angle)	0° (upright)
Yield Strength $R_{p0,2}$	$792 \pm 24 \text{ N/mm}^2$	$822 \pm 14 \text{ N/mm}^2$	$835 \pm 44 \text{ N/mm}^2$
Tensile Strength R_m	$1136 \pm 24 \text{ N/mm}^2$	$1200 \pm 14 \text{ N/mm}^2$	$1156 \pm 9 \text{ N/mm}^2$
Elongation at fracture A_5	$8 \pm 3 \%$	$8 \pm 3 \%$	$11 \pm 1 \%$
Young's Modulus	230.000 N/mm^2	230.000 N/mm^2	230.000 N/mm^2
Melting range Δ	1320 – 1420°C	1320 – 1420°C	1320 – 1420°C
Density ρ	8,6 g/cm ³	8,6 g/cm ³	8,6 g/cm ³
Coefficient of thermal Expansion TEC (25-500°C)	$14,1 \times 10^{-6} \text{K}^{-1}$	$14,1 \times 10^{-6} \text{K}^{-1}$	$14,1 \times 10^{-6} \text{K}^{-1}$
Colour	white	white	white
Metal-ceramic bond strength acc. to EN ISO 9693, 3-Pt.-bending test (min. 25 N/mm ² acc. to EN ISO 9693)	40 N/mm ² (Carmen CCS, Dentaaurum)	40 N/mm ² (Carmen CCS, Dentaaurum)	40 N/mm ² (Carmen CCS, Dentaaurum)
Type	5	5	5
Biocompatibility, L 929-Proliferation acc. to EN ISO 10993-5, -12, ISO 9363-1, LM SOP 4-06-01	No deliberation of cell toxic active substances	No deliberation of cell toxic active substances	No deliberation of cell toxic active substances
Corrosion resistance, static immersion test acc. to EN ISO 10271 (max. 200 µg/cm ² x 7d acc. to EN ISO 22674)	Ion release 3,5 µg/cm ² x 7d	Ion release 3,5 µg/cm ² x 7d	Ion release 3,5 µg/cm ² x 7d

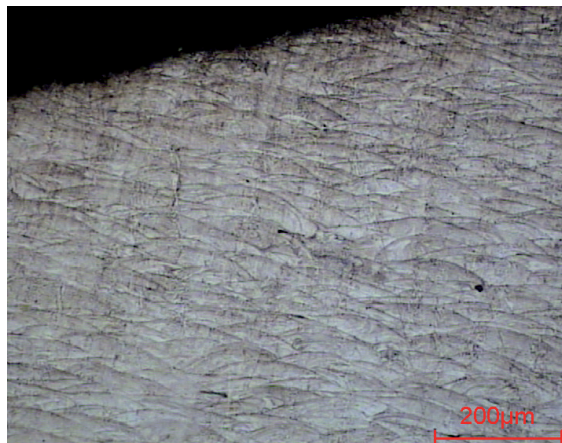
**remanium
star CL**
powered by
Dentaaurum

MICROSECTION

3-unit bridge (16 x)



3-unit bridge etched (100 x)



HEAT TREATMENT

Perform heat treatment under an argon atmosphere. Heat up to 1150°C. Maintain temperature for 1 hour. Allow the components to cool down to 300°C in the oven.

MICROSTRUCTURE

Components made from the cobalt-chromium alloy remanium star CL display a homogeneous, pore-free structure after they are constructed by means of the metal laser melting process LaserCUSING.

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