

# MATERIAL DATA SHEET

**edmit** inc<sup>®</sup>

rematitan<sup>®</sup>  
CL

powered by Dentaureum

Titanium alloy (powder) acc. to EN ISO 9693/DIN EN ISO 22674, Type 4



rematitan<sup>®</sup> CL is a TiAlV-alloy for the production of metallic restorations by means of the metal laser melting process.

22

Ti

47,88

## RANGE OF APPLICATION

Crowns and bridges, frames for metal ceramic veneering, cast partials, primary – and secondary parts for combined restorations, implant supra-  
constructions.

## CHEMICAL COMPOSITION

Component	Mass (%)
Ti	90
Al	6
V	4
Other elements <1 %: N, C, H, Fe, O	

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

Yield Strength $R_{p0,2}$	950 MPa
Tensile Strength $R_m$	1005 MPa
Elongation at fracture $A_5$	10 %
Modulus of elasticity $E$	115.000 MPa
Melting range $\Delta$	1604-1655°C
Density $\rho$	4,5 g/cm <sup>3</sup>
Coefficient of thermal expansion TEC (25-500°C)	10,16 x 10 <sup>-6</sup> K <sup>-1</sup>
Colour	white
Metal- ceramic bond strength acc. to EN ISO 9693, 3-Pt.- bending test (min. 25 MPa acc. to EN ISO 9693)	37 MPa (Triceram, Dentaureum)
Type	4
Biocompatibility, L 929-Proliferation acc. to EN ISO 10993-5, -12	No deliberation of cell toxic active substances
Corrosion resistance, static immersion test acc. to EN ISO 10271 ( max. 200 µg/cm <sup>2</sup> x 7d acc. to EN ISO 22674)	Ion release 1,41 µg/cm <sup>2</sup> x 7d

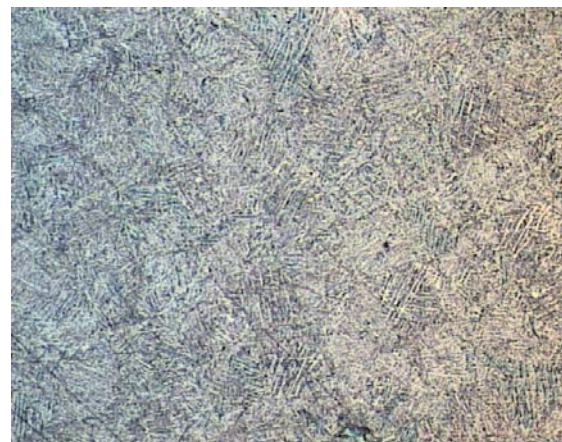
rematitan<sup>®</sup>  
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## MICROSECTION

Test piece etched (20 x)



Test piece etched (100 x)



## HEAT TREATMENT

Perform heat treatment under an argon atmosphere. Heat up within 4 hours to 820°C. Maintain temperature for 1,5 hours. Allow the components to cool down to 500°C in the oven.

## MICROSTRUCTURE

Components made from the titanium alloy rematitan<sup>®</sup> CL display a homogeneous, pore-free structure after they are constructed by means of the metal laser melting process additive manufacturing.

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