EN

remanium® star powder

rematitan® powder

Laser melting with proven materials.

Dentaurum is **THE** powder manufacturer that fulfills the requirements of the important dental and material standards for both products.

- **DIN EN ISO 22674**
  Dentistry – Metallic materials for fixed and removable restorations and appliances
- **DIN EN ISO 9693**
  Dentistry – Compatibility testing for metal-ceramic and ceramic-ceramic systems
- **DIN EN ISO 5832-3**
  Implants for surgery – Metallic materials – Part 3: Wrought titanium 6-aluminium 4-vanadium alloy (rematitan® powder)

DENTAURUM
1886

remanium® star powder and rematitan® powder

Dentaurum has years of experience in the field of laser melting, and is therefore the ideal contact for this process in the dental industry.

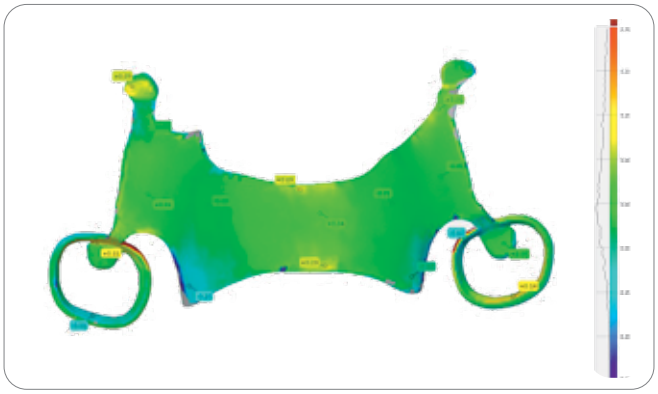
Product advantages

- Decades of experience in powder metallurgy in dental prosthetics and orthodontics
- Ideal grain size distribution for many laser melting units and areas of application
- Same composition as the proven remanium® star alloys for milling and casting
- Perfect suitability for partial dentures with scientifically tested properties for clasp constructions
- Modified CTE value ensures very good ceramic bonding for crowns and bridges
- All prosthetic work can be produced simultaneously on one build plate
- Smooth and dense framework surfaces thanks to optimized grain size selection
- Optimum stress relief thanks to concrete recommendations for heat treatment

Simple and efficient heat treatment

Dental restorations made with remanium® star powder can be annealed free of tension in approx. one hour without shielding gas or special furnaces. This combines the proven product quality with high efficiency and flexibility.

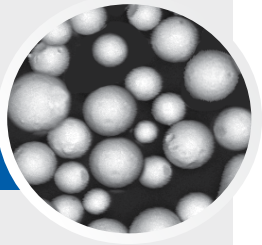
Partial denture fit after heat treatment.



Precision of the heat-treated partial denture in comparison to the original data set.

Universal dental alloy based on CoCr for firing and partial denture technique, Type 5.

remanium® star powder



Spherical powder particles with homogeneous grain size distribution

Availability

remanium® star powder Grain size 10 µm – 30 µm	5 kg	**REF 102-620-70**

Composition (% by mass)

Co	Cr	W	Si	Mn, N, Nb
60.5	28.0	9.0	1.5	< 1 %

Technical data

Yield strength $R_{p0.2}$	800 MPa
Tensile strength R_m	1170 MPa
Hardness H	395 HV 10
Elongation at rupture A_5	11 %
Modulus of elasticity E	230 GPa
Density	8.6 g/ cm³
CTE (25 – 500 °C / 77 – 932 °F)	14.4 x 10^{-6} K^{-1}

Veneering ceramic: We recommend ceraMotion® Me

Universal dental alloy based on Ti in ELI quality (class 23) for firing and partial denture technique, Type 4.

rematitan® powder

Microsection following heat treatment (Magnification 20x)

Availability

rematitan® powder Grain size 10 µm – 45 µm	2.5 kg	**REF 100-145-00**

Composition (% by mass)

Ti	Al	V	Fe, O
90.0	6.0	4.0	< 1 %

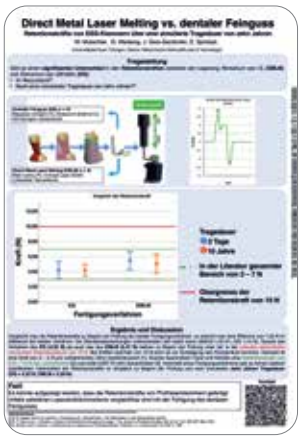
Technical data

Yield strength $R_{p0.2}$	950 MPa
Tensile strength R_m	1005 MPa
Hardness H	330 HV 10
Elongation at rupture A_5	10 %
Modulus of elasticity E	130 GPa
Density	4.4 g/ cm³
CTE (25 – 500 °C / 77 – 932 °F)	10.1 x 10^{-6} K^{-1}

Veneering ceramic: We recommend ceraMotion® Ti

remanium® star powder for partial dentures

remanium® star powder is highly suited for the production of clasp-retained dentures. Properties are comparable to those of cast constructions. This was also scientifically proven by a continuous stress test:



Conclusion of study by the University of Tübingen, Germany:

"It was possible to show that the retention forces of dental clasps, manufactured by selective laser beam melting, are comparable with the forces of precision-cast clasps."

Mutschler, M. ; et. al: Direct Metal Laser Melting versus dentaler Feinguss: Retentionskräfte von ESG-Klammern über eine simulierte Tragedauer von zehn Jahren. [Direct Metal Laser Melting versus dental investment casting: retention forces of one-piece cast clasps over a simulated time in-situ of ten years.] Published in: *Quintessenz Zahntechnik* 45 (2019), No. 8, p. 1000-1008

CHAT

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