

DENERTIA™ C4 ALLOY

TECHNICAL DATA

NOMINAL COMPOSITION (MASS %)

Co	Cr	Mo	C	Ni	Fe	Si	Other
Balance	29	5.8	Max. 0.50	Max. 0.10	Max. 0.70	Max. 0.80	Max. 0.50

* This alloy is Nickel, Beryllium and Cadmium free as defined in ISO 6871-1 and ISO 22674

DENERTIA™ C4 is a cobalt chromium base-metal casting alloy for the manufacture of removable partial dentures and bridgework. It conforms to the following International Standards:

EN 1641 §4.2	Dentistry – Medical Devices for Dentistry – Materials (Harmonised Standard i.a.w. MDD 93/42/EEC)
EN ISO 6871-1	Dental base metal casting alloys (Referenced in EN 1641)
ISO 22674	Dentistry – Metallic Materials for fixed and removable restoration and appliances (Type 4 and 5)

NOMINAL PROPERTIES (AS-CAST)

Proof Stress (Rp _{0.2})	600 MPa
Ultimate Tensile Strength	770-780 MPa
Vickers Hardness (HV ₃₀)	330-380
Density	8.4 g/cm ³
Thermal expansion coefficient	≈ 14.5 μm/m.°C (25-500°C)
Tensile Elongation	> 3.0 %
Elastic Modulus	200-230 GPa
Melting Range (heating)	1390-1440°C
Solidification Range (cooling)	1265-1355°C

This alloy shall only be used by properly qualified and experienced personnel and should not be used outside of the scope of its intended use as defined herein, and as per established acceptable practice in the dental profession. Kennametal Stellite™ takes no responsibility for any aspect of the processing of this alloy. Health & Safety Data can be obtained from the package insert or MSDS.

The Quality System of Kennametal Stellite U.K. for the manufacture of dental alloys has been accredited to ISO 13485 and conforms to the requirements of Annex V of the Medical Devices Directive 93/42/EEC (Notified Body No. 0088). DENERTIA™ C4 meets the Essential Requirements of Annex 1 of MDD 93/42/EEC.

Kennametal Stellite™ manufactures sophisticated alloys in the form of castings, powders, coatings, consumables, and machined parts that resist wear, corrosion, and abrasion. Information provided in this document is intended only for general guidance about Kennametal Stellite™ products and is the best information in our possession at the time. Product users may request information about their individual use of our products, but Kennametal Stellite™ does not warrant or guarantee this information in any way. Selection and purchase of Kennametal Stellite™ products is the sole responsibility of the product user based on the suitability of each use. Individual applications must be fully evaluated by the user, including compliance with applicable laws, regulations, and non-infringement. Kennametal Stellite™ cannot know or anticipate the many variables that affect individual product use and individual performance results may vary. For these reasons, Kennametal Stellite™ does not warrant or guarantee advice or information in this document, assumes no liability regarding the same, and expressly disclaims any warranty of any kind, including any warranty of fitness for a particular purpose, regarding the same.

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