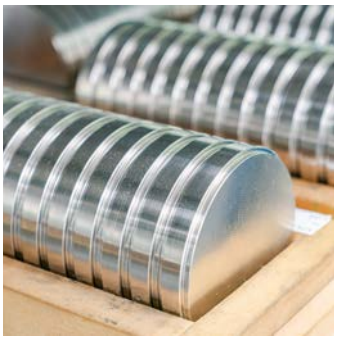
DENTAL ALLOYS, OVERCASTING COMPONENTS AND COMPATIBLE SCREWS

MESA®

PRODUCER OF SPECIAL ALLOYS SINCE 1975

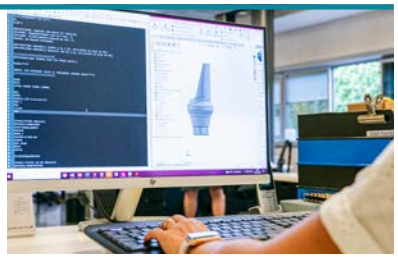
TABLE OF CONTENTS

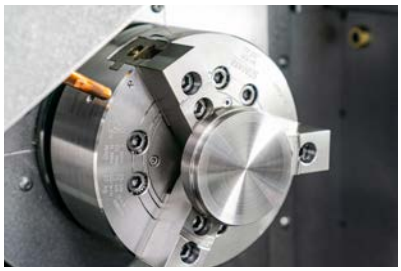


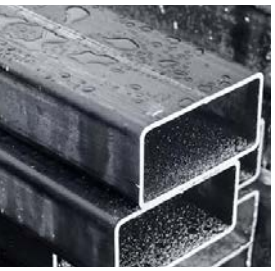
MESA

OUR DNA

Research & Development



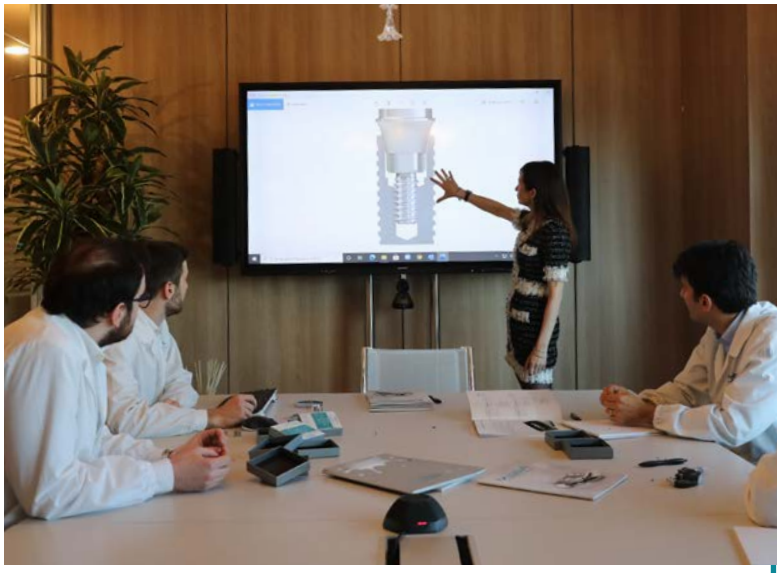




Processing of materials

High-quality raw materials

Academia



Production

Marketing in Italy and abroad

Mesa Italia has been a leading Italian manufacturer of dental alloys since 1975. The strong point of the Mesa company is its long family tradition, which has enabled its founder Giacomo Sala to pass the same creative ambition onto his three children, Lorenzo, Valerio and Rita, promoting a product whose quality is nationally and internationally recognised. Mesa stands out for its flexibility, enabling it to respond efficiently and quickly to the continually changing demands of the market, also due to the internal management of all production.

Mesa tracks every stage in the production of its products: from the research and development of ever more sophisticated, cutting-edge solutions to the design and production of top-quality dental alloys made from only the best-performing raw materials.

The well-being and health of patients have always been the company's top priorities: relying on its knowledge and its research and design capabilities, Mesa produces only alloys that comply with the highest standards of quality, safety and reliability.

Health Canada
Licences N° 101164
N° 99138
N° 99139
N° 105521

FDA Registered Facility
Owner/Operator
N° 10044677

РЕГИСТРАЦИОННОЕ
УДОСТОВЕРЕНИЕ
НА МЕДИЦИНСКОЕ
ИЗДЕЛИЕ
N° РЗН 2021/14248

РЕГИСТРАЦИОННОЕ
УДОСТОВЕРЕНИЕ
НА МЕДИЦИНСКОЕ
ИЗДЕЛИЕ
N° РЗН 2014/2226

QUALITY & CERTIFICATIONS

Rigorous selection when purchasing raw materials means that we can guarantee, for each product, **the total absence of Beryllium and Cadmium and the absence of Nickel in all Cobalt-based alloys**.

MESA Italia Srl complies with the latest Quality Standards and adheres to the strictest international criteria for the production of class IIa and IIb medical devices, keeping its Management System constantly updated in accordance with **UNI CEI EN ISO 13485, UNI EN ISO 9001 and MDSAP (Medical Device Single Audit Program) standards.**

The organisation has therefore obtained marketing **authorisation** for its devices from the relevant bodies in the **5 countries participating in MDSAP:**
Food & Drug Administration FDA, United States of America - ANVISA, Brazil - Ministry of Health, Labour and Welfare MHLW, Japan - Health Care Ministry, Canada - Therapeutic Good Administration TGA, Australia.

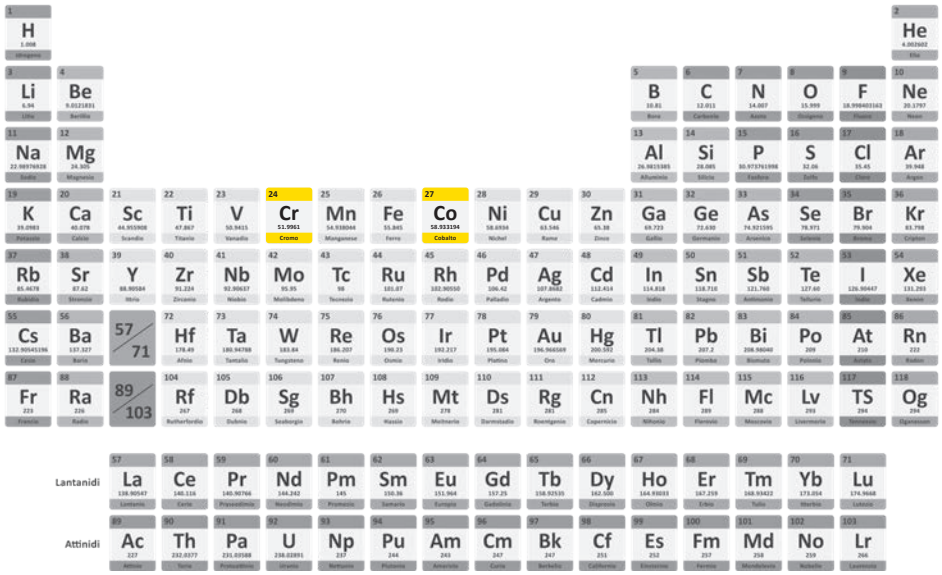
The company has EC certification in accordance with **Directive 93/42/EEC (MDD)** and **Regulation (EU) 2017/745 (MDR)** for the sale of all medical devices in European Union member countries, issued by the Notified Body **ICIM SpA**.
For all dental alloys specifically, the company received EC certification in February 2023 according to Regulation **(EU) 2017/745 (MDR)**.

MESA Italia Srl has obtained various sales licences in many other countries including:
Eastern Europe (Russia, Ukraine, Belarus...)
Asia (China, Kazakhstan, Uzbekistan, Thailand...)
Maghreb (Morocco, Tunisia and Algeria)
United Kingdom, Egypt, Saudi Arabia...

HIGH-QUALITY RAW MATERIALS

Cobalt-Chromium alloys are distinguished by certain properties:

- **High rigidity (stiffness):** The high modulus of elasticity of CoCr alloys offers valid rigidity for intraoral use without the need for bulky sections, reducing the weight and space of the metal structure.
- **Resistance to wear and abrasion:** Biocompatibility.
- **Resistance (strength):** High specific strength due to the crystallographic nature of Cobalt and the reinforcing effect of Chromium and Tungsten and other elements present in solid solution.
- **Corrosion resistance:** this prerequisite is essential to ensure good tolerability of the prosthetic restoration.



COBALT-CHROMIUM

DURABLE, RESISTANT AND BIOCOMPATIBLE.

WHY **CHOOSE** MESA **COBALT-CHROMIUM ALLOYS?**

	Oxidation	Smoothness	Polishing	Ceramisation	Milling
M. Solare	XX	XX	XXX	XXX	XXX
M. Splendidum	XXX	XXX	XXX	XXX	XXX
M. Lucens	XXX	XXX	XXX	XXX	XX

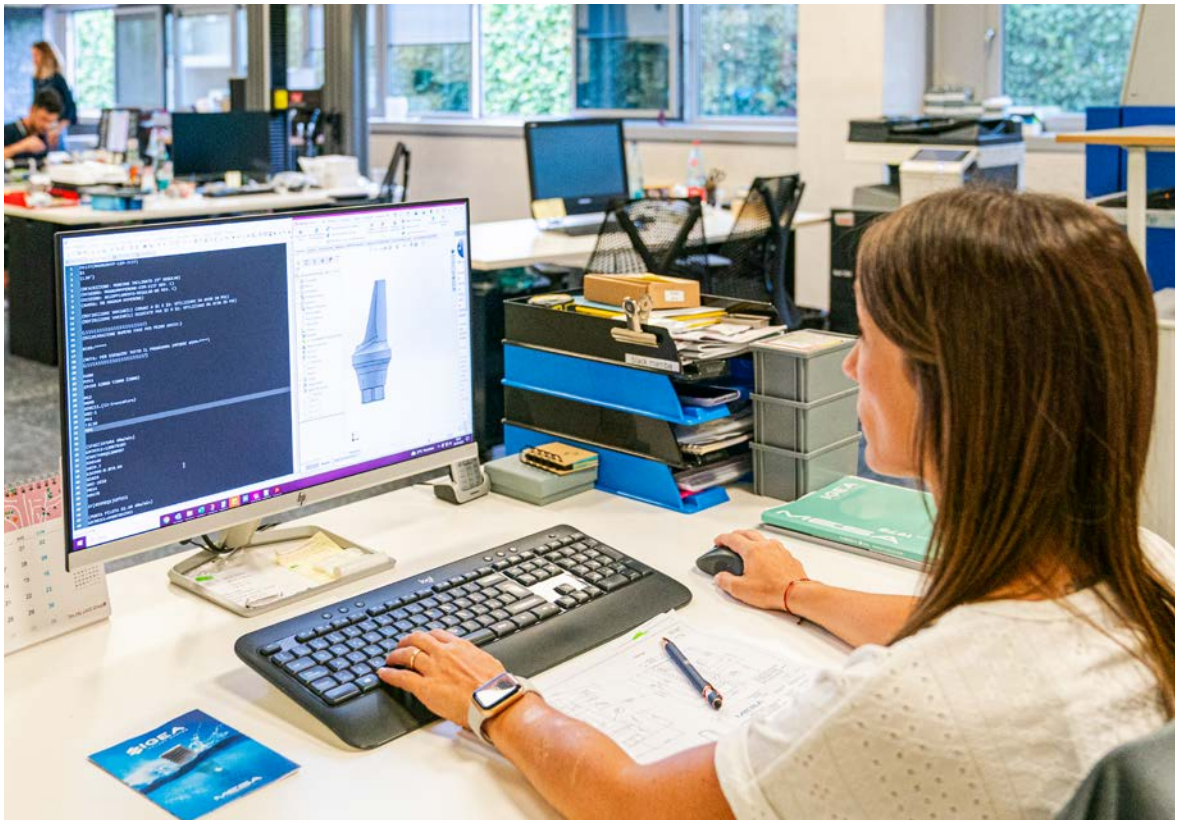
Key: **X** = satisfactory **XX** = good **XXX** = excellent

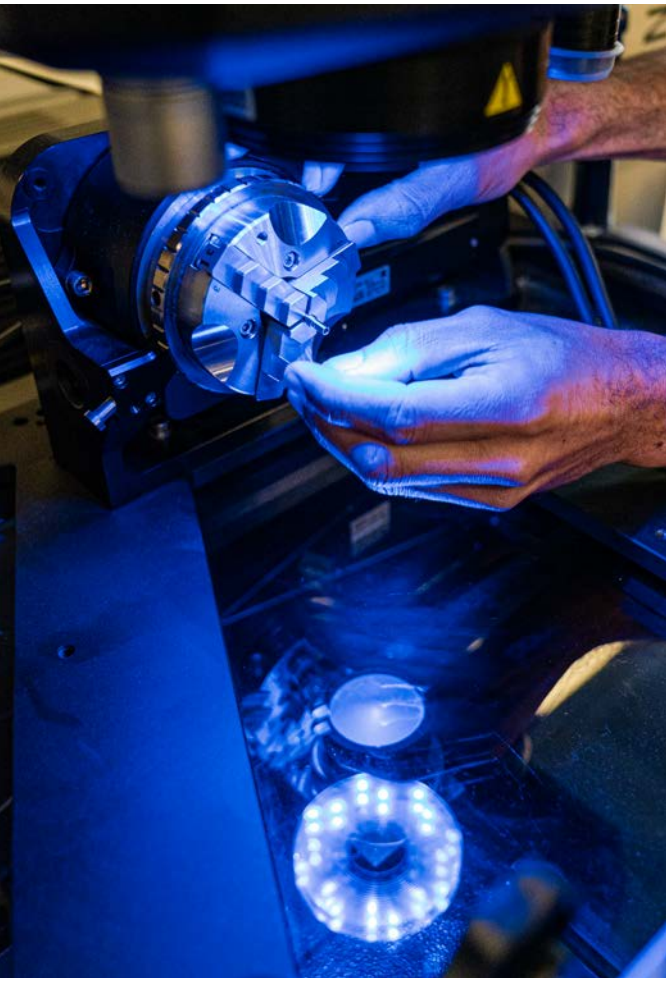
Due to ongoing discussion with a team of highly competent dental technicians, Mesa Italia has overcome the common defects of Cobalt-Chromium alloys, for example the formation of thicker, darker oxide layers, greater hardness and a broad range of melting temperature.
This has led to a significant improvement in the quality and handling of Cobalt-Chromium alloys compared with common alloys.

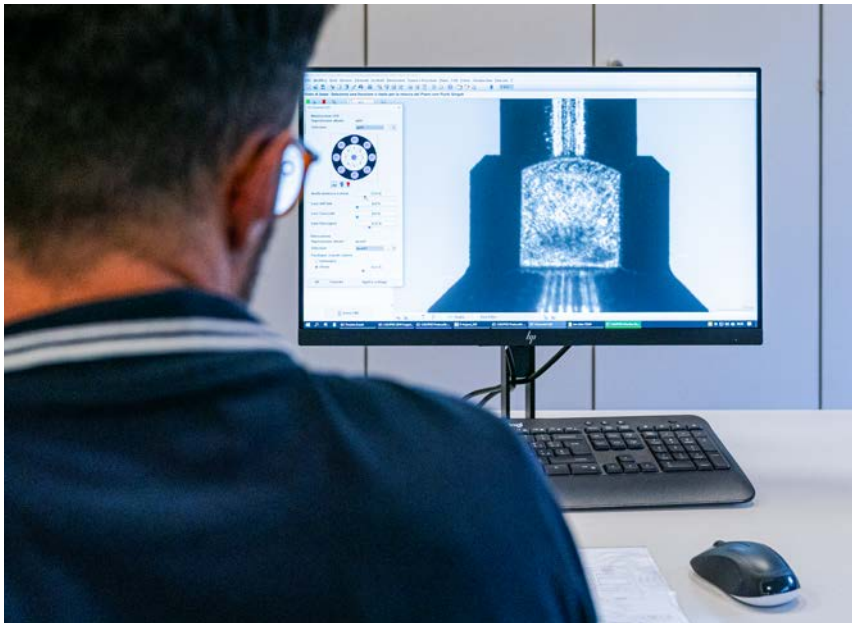
- **Comfortable, non-aggressive oxidation** of the Mesa Magnum Lucens alloy: the oxidation is closely bonded to the metal and does not cause detachment of the ceramic.
- **CNC milling**: Magnum Solare and Magnum Splendidum alloys are easily milled due to their low hardness.
- **Outstanding smoothness of the Mesa Magnum Lucens alloy:** ensures that the technician can reproduce even the finest details, making this an excellent alloy for lost-wax castings.
- **Excellent polishability** of the Mesa Magnum Splendidum and Magnum Solare alloys: easily milled owing to a perfect balance between Vickers hardness and modulus of elasticity, which avoids damage to the ceramics while providing excellent workability.
- **The melting and solidus/liquidus temperature (1253-1304°C)** of Mesa Magnum Lucens alloy are lower than those of standard Cobalt-Chromium alloys: an 80-degree difference that helps contain wear and tear on the induction or die-casting machine.


MESA
MAGNUM H60
CE 0425
UDI
Aleación dental a base de Cobalto
para prótesis removible, tipo 5*
*En conformidad a ISO 22674:2016
Cobalt based dental alloy for prostheses, type 5*
*According to ISO 22674:2016
Co= 63% , Cr= 29% , Mo= 6,5%
LOT 12219
1000 g
MD
REF 40040015A Cylinder 5 PLS

RESEARCH & DEVELOPMENT







Mesa's dedicated research and development team, constantly up to date on the state of the art of the main products and trends in the dental sector, interacts daily with dental technicians and dentists in order to achieve increasingly higher product performance and quality.

With a solid background in mechanical processing and extensive experience in the dental sector, the company fully understands the importance of eliminating any defects in the manufacturing process. This awareness is fully reflected in the careful choice of raw materials, the rigorous assessment and validation protocols and the implementation of production processes by a team of highly qualified engineers and operators.

Rigorous checks on the semi-finished products, on completion of the production process, are performed daily using the most advanced precision optical technologies. Collaboration with Italian university institutes helps provide solid scientific foundations on which to base business decisions.

100% FACTORY-MADE PRODUCTION

A wide range of products for dental laboratories and dental practices.
Mesa Italia offers a complete assortment of products which, from design to production, are entirely factory-made and 100% made in Italy. The offer includes ceramic alloys, compatible abutments, discs for CAD-CAM processing systems in Cobalt-Chromium and Titanium for dental laboratories, and a complete line of implants - Mesa Igea - for dental practices. A team of specialists, including experienced dentists and dental technicians, engineers and researchers, work together to design and develop state-of-the-art products that meet the highest industry standards.

WIDESPREAD **DISSEMINATION** AND CONTINUING **EDUCATION**

Mesa Italia distributes its product range through an extensive network of specialised managers and product experts supported by a global network of distributors.
This strategy facilitates access to Mesa Italia's high-quality products for dental professionals worldwide and their patients.
Moreover, the company has always been committed to promoting the advancement of knowledge and skills in the field of dentistry.
Training programmes, workshops and educational resources are organised throughout the year, enabling dental professionals to master the latest techniques and remain constantly up-to-date.


MESA
PRODUCER OF SPECIAL ALLOYS SINCE 1975
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DT
Simone Fedi

DENTAL ALLOYS

MESA®


producer of special alloys since

DENTAL ALLOYS FOR **CERAMICS**

Characteristics of Mesa Alloys for Ceramics:

- All Mesa alloys for ceramics are manufactured in accordance with ISO 9693; ISO 22674.
- **Strictly free of toxic elements:** Beryllium, Cadmium, Lead, Indium and Gallium
- **Universal use:** bridges and crowns, double crowns, superstructures on implants, bonding technique, secondary parts in combined prosthetics.
- **Perfectly ceramisable:** low coefficient of thermal expansion (CTE).
- **High degree of purity.**
- **High resistance to corrosion and heat.**

MAGNUM SPLENDIDUM
TYPE 3

COMPOSITION

Cobalt (Co)	61%
Chromium (Cr)	28%
Silicon (Si)	1.5%
Tungsten (W)	8.5%
Others	Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1308 ÷ 1384 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.2 x 10^{-6} K^{-1} (25 ÷ 600 °C) 14.4 x 10^{-6} K^{-1}
Melting point	1440 °C
Density	8.5 g/cm^3
Vickers hardness	273 HV10
Percentage elongation at fracture	16%
Yield load strength (Rp0.2)	360 MPa
Modulus of elasticity	183 GPa
Release of ions in 7 days	1.75 µg/cm^2
Maximum firing temperature	980 °C
Colour	White

MAGNUM NITENS
TYPE 5

COMPOSITION

Cobalt (Co)	62.5%
Chromium (Cr)	28.5%
Molybdenum (Mo)	4%
Tungsten (W)	3%
Others	Nb, Fe, Si

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1369 ÷ 1471 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.5 x 10^{-6} K^{-1} (25 ÷ 600 °C) 14.7 x 10^{-6} K^{-1}
Melting point	1530 °C
Density	8.2 g/cm^3
Vickers hardness	302 HV10
Percentage elongation at fracture	5%
Yield load strength (Rp0.2)	535 MPa
Modulus of elasticity	195 GPa
Release of ions in 7 days	0.8 µg/cm^2
Maximum firing temperature	950 °C
Colour	White

MAGNUM LUCENS
TYPE 4

COMPOSITION

Cobalt (Co)	63%
Chromium (Cr)	28%
Niobium (Nb)	4%
Tungsten (W)	3%
Others	Mn, Fe, Si

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1253÷ 1304 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.1 x 10^{-6} K^{-1} (25 ÷ 600 °C) 14.5 x 10^{-6} K^{-1}
Melting point	1360 °C
Density	8.4 g/cm^3
Vickers hardness	324 HV10
Percentage elongation at fracture	3%
Yield load strength (Rp0.2)	475 MPa
Modulus of elasticity	194 GPa
Release of ions in 7 days	0.8 µg/cm^2
Maximum firing temperature	980 °C
Colour	White

MAGNUM CERAMIC CO
TYPE 5

COMPOSITION

Cobalt (Co)	64%
Chromium (Cr)	21%
Molybdenum (Mo)	6%
Tungsten (W)	6%
Others	Si, Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1309 ÷ 1417 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.1 x 10^{-6} K^{-1} (25 ÷ 600 °C) 14.6 x 10^{-6} K^{-1}
Melting point	1470 °C
Density	8.8 g/cm^3
Vickers hardness	286 HV10
Percentage elongation at fracture	10%
Yield load strength (Rp0.2)	570 MPa
Modulus of elasticity	194 GPa
Release of ions in 7 days	0.6 µg/cm^2
Maximum firing temperature	935 °C
Colour	White

MAGNUM SATURNO
TYPE 3

COMPOSITION

Nickel (Ni)	63%
Chromium (Cr)	26%
Molybdenum (Mo)	9%
Silicon (Si)	1.5%

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1190 ÷ 1303 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 13.8 x 10^{-6} K^{-1}
Melting point	1360 °C
Density	8.2 g/cm^3
Vickers hardness	173 HV10
Percentage elongation at fracture	37%
Yield load strength (Rp0.2)	300 MPa
Modulus of elasticity	197 GPa
Release of ions in 7 days	2.7 µg/cm^2
Maximum firing temperature	950 °C
Colour	White

MAGNUM CLARUM
TYPE 3

COMPOSITION

Nickel (Ni)	63%
Chromium (Cr)	25%
Molybdenum (Mo)	9%
Silicon (Si)	2%
Niobium (Nb)	*1%*

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1298 ÷ 1344 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 13.7 x 10^{-6} K^{-1} (25 ÷ 600 °C) 14 x 10^{-6} K^{-1}
Melting point	1400 °C
Density	8.3 g/cm^3
Vickers hardness	180 HV10
Percentage elongation at fracture	26%
Yield load strength (Rp0.2)	360 MPa
Modulus of elasticity	191 GPa
Release of ions in 7 days	1.8 µg/cm^2
Maximum firing temperature	950 °C
Colour	White

MAGNUM CERAMIC S
TYPE 4

COMPOSITION

Nickel (Ni)	65%
Chromium (Cr)	24%
Molybdenum (Mo)	10%
Others	Si, Fe

PHYSICAL AND MECHANICAL PROPERTIES

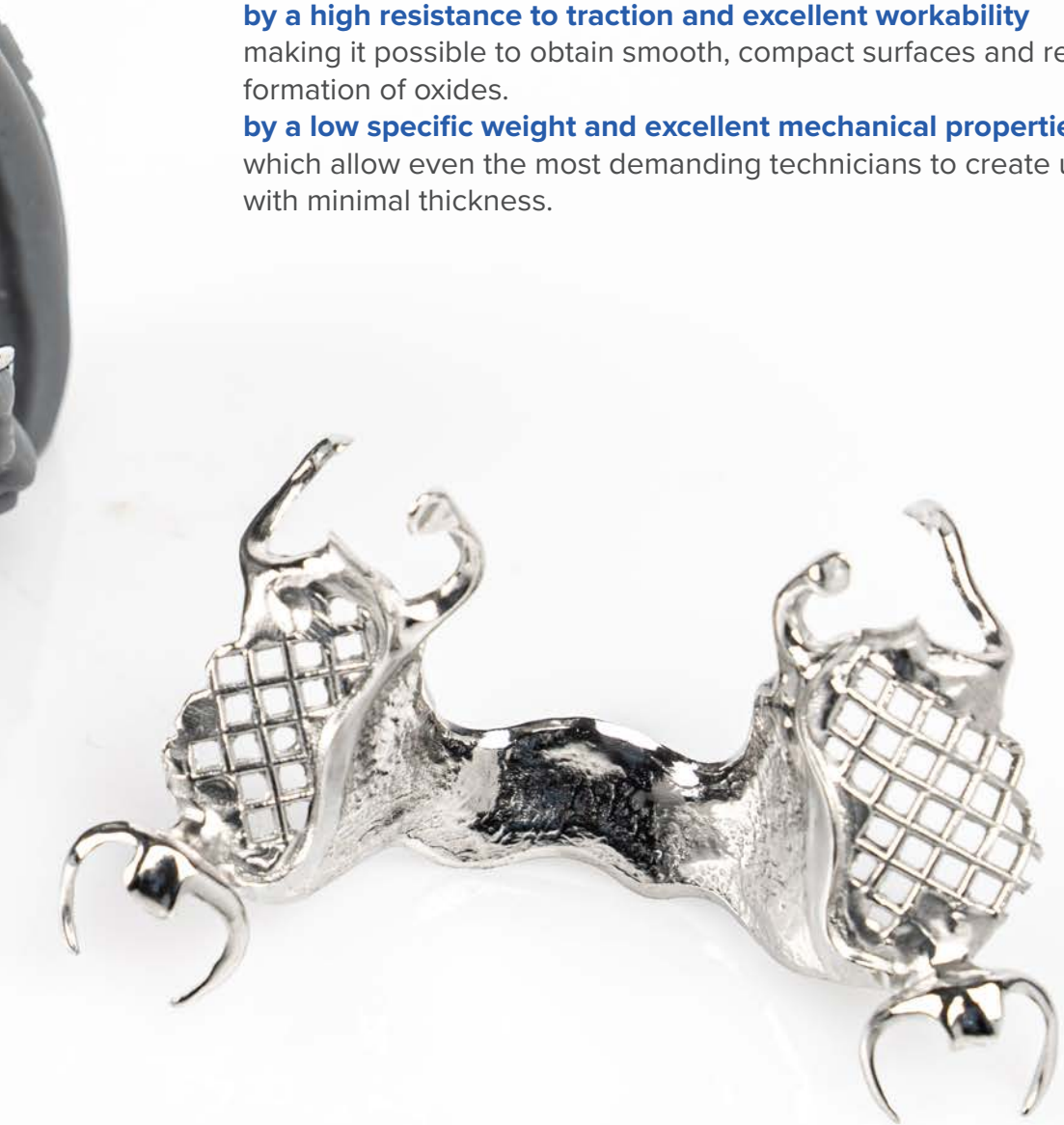
Solidus-liquidus temperature	1312 ÷ 1369 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 13.7 x 10^{-6} K^{-1} (25 ÷ 600 °C) 14.1 x 10^{-6} K^{-1}
Melting point	1420 °C
Density	8.4 g/cm^3
Vickers hardness	188 HV10
Percentage elongation at fracture	9%
Yield load strength (Rp0.2)	360 MPa
Modulus of elasticity	190 GPa
Release of ions in 7 days	1.6 µg/cm^2
Maximum firing temperature	900 °C
Colour	White


SMILES
THAT
LAST
LONGER

DENTAL ALLOYS FOR **PROSTHESES**

A prosthesis is, by definition, a partial removable dental prosthesis which, exploiting the alloy's elasticity, can be attached to natural teeth by means of casted hooks. In case there are contiguous teeth from both sides they are called "interdental prostheses". If, on the contrary, the last tooth to be used for fixing the prostheses is missing, then they are called "cantilever bridge".

The alloys for prostheses produced by Mesa are characterised:
by a high resistance to traction and excellent workability
making it possible to obtain smooth, compact surfaces and reduce the formation of oxides.
by a low specific weight and excellent mechanical properties
which allow even the most demanding technicians to create unique products with minimal thickness.



MAGNUM VIP-A
TYPE 5

COMPOSITION

Cobalt (Co)	64%
Chromium (Cr)	29%
Molybdenum (Mo)	6%
Others	C, Si, Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1350 ÷ 1406 °C
Melting point	1460 °C
Density	8.4 g/cm^3
Vickers hardness	386 HV10
Percentage elongation at fracture	6%
Yield load strength (Rp0.2)	580 MPa
Modulus of elasticity	211 GPa
Release of ions in 7 days	1.1 µg/cm^2
Colour	White

MAGNUM HBA
TYPE 5

COMPOSITION

Cobalt (Co)	62%
Chromium (Cr)	31%
Molybdenum (Mo)	5%
Others	C, Si, Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1340 ÷ 1400 °C
Melting point	1450 °C
Density	8.3 g/cm^3
Vickers hardness	389 HV10
Percentage elongation at fracture	6%
Yield load strength (Rp0.2)	610 MPa
Modulus of elasticity	200 GPa
Release of ions in 7 days	0.49 µg/cm^2
Maximum firing temperature	980 °C
Colour	White

MAGNUM H60
TYPE 5

COMPOSITION

Cobalt (Co)	63%
Chromium (Cr)	29%
Molybdenum (Mo)	6.5%
Others	C, Si, Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1321 ÷ 1407 °C
Melting point	1460 °C
Density	8.3 g/cm^3
Vickers hardness	394 HV10
Percentage elongation at fracture	6%
Yield load strength (Rp0.2)	545 MPa
Modulus of elasticity	209 GPa
Release of ions in 7 days	0.6 µg/cm^2
Colour	White

MAGNUM H50

TYPE 5

COMPOSITION

Cobalt (Co)	64%
Chromium (Cr)	29%
Molybdenum (Mo)	6.5%
Others	C, Si, Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1334 ÷ 1405 °C
Melting point	1460 °C
Density	8.3 g/cm^3
Vickers hardness	374 HV10
Percentage elongation at fracture	6%
Yield load strength (Rp0.2)	525 MPa
Modulus of elasticity	207 GPa
Release of ions in 7 days	0.6 µg/cm^2
Colour	White

COBALT-CHROMIUM CE **0425** ACCORDING TO: ISO 22674

DENTAL ALLOYS FOR **BRIDGES AND CROWNS**

A bridge is, by definition, a fixed prosthesis to replace missing teeth. A bridge involves at least two teeth, also called 'abutment teeth', usually located on either side of the gap left by the missing tooth.
The bridge is anchored onto these teeth (usually crowns), such that the missing teeth (called “intermediates”) are fixed.

A bridge usually consists of a retainer and one or more intermediate components.

For bridges and crowns Mesa offers the **Magnum Ni-Cr-Fe** alloy based on Nickel-Iron and characterised by low hardness and low cost. **Magnum Ni-Cr-Fe** is characterised by high corrosion resistance and good biocompatibility, as guaranteed by tests according to ISO 10993-5 and ISO 22674.

MAGNUM NI-CR-FE

TYPE 2

COMPOSITION

Iron (Fe)	42%
Nickel (Ni)	27%
Chromium (Cr)	22%
Silicon (Si)	4%
Others	C, Si, Mn, Fe

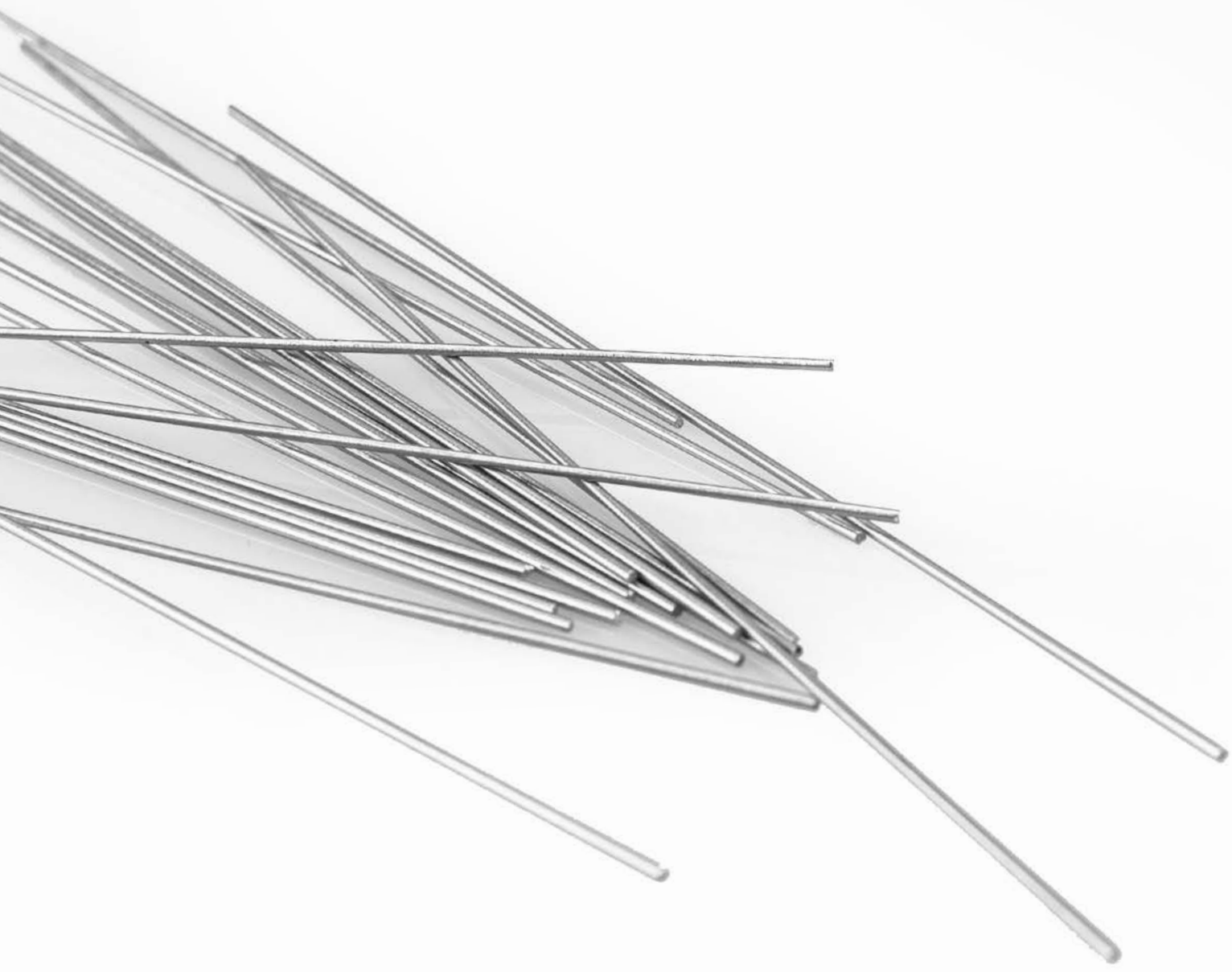
PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1333 ÷ 1380 °C
Melting point	1430 °C
Density	7.8 g/cm^3
Vickers hardness	168 HV10
Percentage elongation at fracture	25%
Yield load strength (Rp0.2)	250 MPa
Modulus of elasticity	205 GPa
Release of ions in 7 days	137 µg/cm^2
Colour	White

DENTAL ALLOYS FOR **SOLDERING**

All solders produced by Mesa are highly biocompatible and comply with the ISO 9333 standard. Mesa offers a wide range of solders having different chemical compositions, different intended uses and, as a consequence, a good adaptability to all kinds of alloys.

Our soldering is available in the following sizes:
ROUGH STICK DIAMETER: 1.7 mm LENGTH: 75 mm



MAGNUM SALDATURA CO

COMPOSITION

Cobalt (Co)	62%
Chromium (Cr)	29%
Molybdenum (Mo)	4%
Silicon (Si)	3.5%
Others	C, Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1071 ÷ 1260 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 15.5 x 10^{-6} K^{-1}
	(25 ÷ 600 °C) 15.8 x 10^{-6} K^{-1}
Melting point	1310 °C
Density	8.2 g/cm^3
Colour	White

MAGNUM SALDATURA A

COMPOSITION

Cobalt (Co)	52%
Chromium (Cr)	20%
Nickel (Ni)	21%
Others	Fe, Si, C, Mn

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	992 ÷ 1185 °C
Melting point	1240 °C
Density	8.1 g/cm^3
Colour	White

MAGNUM SALDATURA B

COMPOSITION

Cobalt (Co)	31%
Chromium (Cr)	21%
Nickel (Ni)	39%
Molybdenum (Mo)	6%
Others	C, Mn

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1033 ÷ 1210 °C
Melting point	1260 °C
Density	8.2 g/cm^3
Colour	White

DISCS AND **BARS** FOR **CAD/CAM** PROCESSING

Cad (computer aided design) software is a system that enables the digital design of dental devices in order to produce prosthetic restorations using Cam (computer aided manufacturing).

COBALT-CHROMIUM DISCS FOR CAD/CAM PROCESSING

Mesa has now been producing Cr-Co discs for CAD-CAM processing systems for more than 15 years. Cr-Co CAD-CAM discs are supplied in the following alloys: **Magnum Splendidum and Magnum Solare**.

Our discs are characterised by a:
- **Facilitated milling**, ensured by the perfect balance between Vickers hardness and modulus of elasticity, avoiding damage to the ceramics while enabling excellent workability.
- **Excellent polishability** with less wear on the cutters and less effort on the spindle.

The available heights and diameters are indicated below:

DIAMETER	HEIGHT
98.5 mm	8 mm
	10 mm
	12 mm
	13.5 mm
	14 mm
	15 mm
	16 mm
	18 mm
	20 mm
	22 mm
	24.5 mm
	25 mm

FOR COMPATIBLE SCREWS SEE page 64

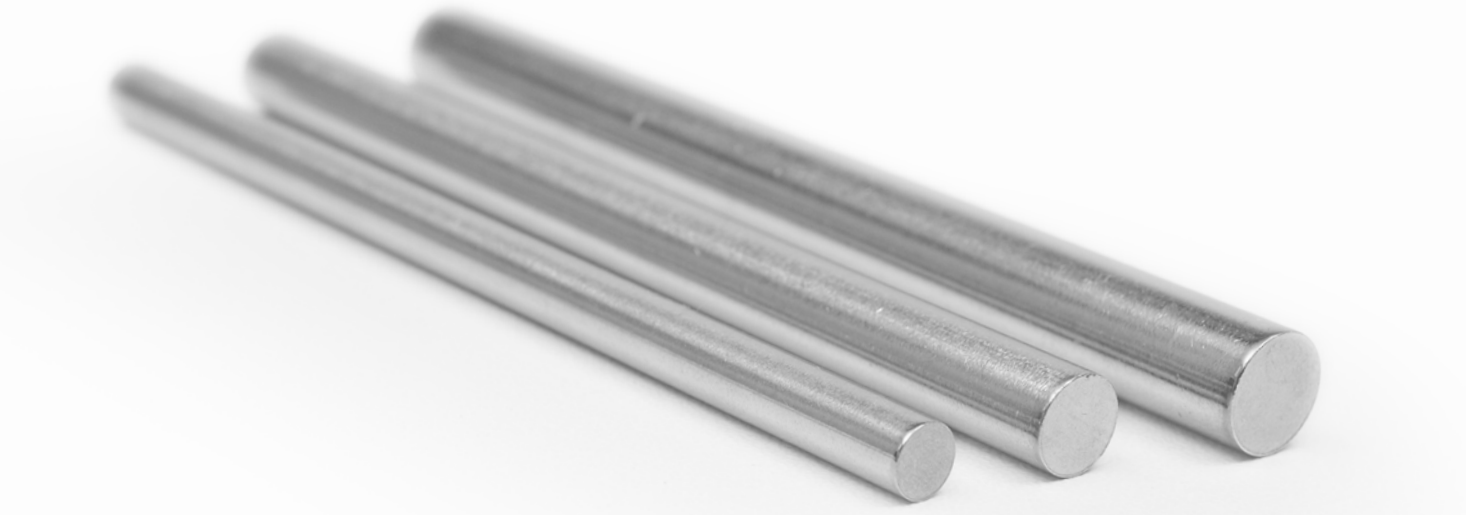
COBALT-CHROMIUM BARS FOR CAD/CAM PROCESSING

Mesa has recently introduced bars for CAD/CAM processing into its range of products.

The bars have been specifically designed to reduce the processing costs and to ensure lower material consumption.

The bars are available in two materials:
Magnum Splendidum and **Magnum Solare** based on Cr-Co, in different diameters and lengths, as shown in the table below:

LENGTH	DIAMETER
1000 mm	5 mm
3000 mm	6 mm
	6.35 mm
	8 mm
	10 mm
	12 mm
	14 mm
	16 mm
	18 mm
	20 mm



MAGNUM SPLENDIDUM
TYPE 3

COMPOSITION

Cobalt (Co)	61%
Chromium (Cr)	28%
Silicon (Si)	1.5%
Tungsten (W)	8.5%
Others	Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1308 ÷ 1384 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.2 x 10^{-6} K^{-1}
	(25 ÷ 600 °C) 14.4 x 10^{-6} K^{-1}
Melting point	1440 °C
Density	8.5 g/cm^3
Vickers hardness	273 HV10
Percentage elongation at fracture	16%
Yield load strength (Rp0.2)	360 MPa
Modulus of elasticity	183 GPa
Release of ions in 7 days	1.75 µg/cm^2
Maximum firing temperature	980 °C
Colour	White

MAGNUM SOLARE
TYPE 4

COMPOSITION

Cobalt (Co)	66%
Chromium (Cr)	27%
Molybdenum (Mo)	6%
Others	Si, Mn

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1307 ÷ 1417 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.3 x 10^{-6} K^{-1}
	(25 ÷ 600 °C) 14.5 x 10^{-6} K^{-1}
Melting point	1470 °C
Density	8.4 g/cm^3
Vickers hardness	255 HV10
Percentage elongation at fracture	11%
Yield load strength (Rp0.2)	395 MPa
Modulus of elasticity	233 GPa
Maximum firing temperature	980 °C
Colour	White

EFFICIENCY IN CAD-CAM MILLING

TITANIUM DISCS FOR CAD/CAM PROCESSING

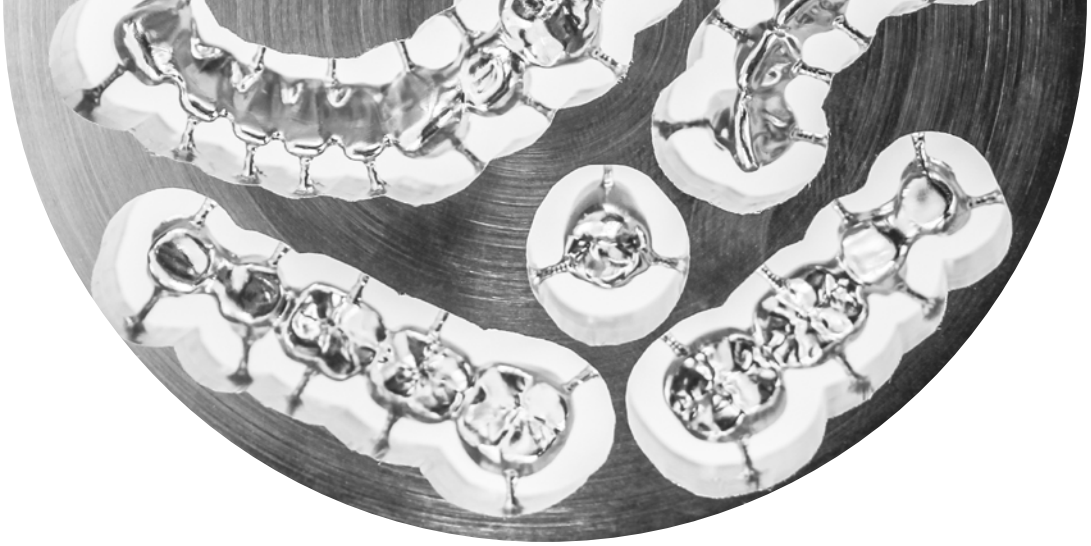
Mesa is delighted to introduce an innovative material into its product range, the **Grade 23 Titanium** (commonly called Grade 5 ELI, Extra Low Interstitial). Compared with Grade 5 Titanium, this alloy has a reduced percentage of interstitial elements such as Oxygen and Iron, which improves ductility and resistance to fracturing.

This material is:
HIGHLY BIOCOMPATIBLE | CORROSION RESISTANT
LIGHTWEIGHT | EASY TO MILL | VERY TOUGH
The alloy takes the name of **Magnum Hyperone**, inspired by the Greek mythological figure, Hyperion, an historical titan of observance.

The available heights and diameters are indicated below:

FOR COMPATIBLE SCREWS SEE page 64

DIAMETER	HEIGHT
98.5 mm	8 mm
	10 mm
	12 mm
	13.5 mm
	14 mm
	15 mm
	16 mm
	18 mm
	20 mm
	22 mm
	24.5 mm
	25 mm



MAGNUM HYPERONE

TYPE 4

COMPOSITION

Titanium (Ti)	90%
Aluminium (Al)	6%
Vanadium (V)	4%
Others	Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1605 ÷ 1660 °C
Melting point	1710 °C
Density	4.426 g/cm^3
Vickers hardness	312 HV10
Percentage elongation at fracture	14%
Yield load strength (Rp0.2)	880 MPa
Modulus of elasticity	114 GPa
Colour	White

TITANIUM CE **0425** ACCORDING TO: ASTM F136

ERGAL DISCS FOR **CAD/CAM** PROCESSING

Mesa is delighted to present the new **ERGAL discs**.
With its superb milling performance, this alloy is excellent for the production of test products. It also guarantees extremely high precision and extreme ease of production. Indeed Ergal products make the manufacturing process easy, quick and cost-effective.

The available heights and diameters are indicated below:

DIAMETER	HEIGHT
98.5 mm	16 mm
	20 mm

QBARS IN COBALT-CHROMIUM AND TITANIUM

Mesa is delighted to introduce the **Magnum** Splendidum and **Magnum Hyperone Qbars** into its product range.
These are Cobalt-Chromium and Titanium bars with unique features, dedicated to the manufacture of prosthesis with immediate loading. Thanks to their extreme versatility, they feature excellent adaptability and customisation.
In fact, several products can be manufactured from a single device. Moreover, due to its innate preforming, the device can be adapted according to a wide variety of requirements.

Qbars are available in the following size: 3x2x80 mm

MAGNUM SPLENDIDUM
TYPE 3

COMPOSITION

Cobalt (Co)	61%
Chromium (Cr)	28%
Silicon (Si)	1.5%
Tungsten (W)	8.5%
Others	Mn, Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1308 ÷ 1384 °C
Coefficient of thermal expansion	(25 ÷ 500 °C) 14.2 x 10^{-6} K^{-1}
	(25 ÷ 600 °C) 14.4 x 10^{-6} K^{-1}
Melting point	1440 °C
Density	8.5 g/cm^3
Vickers hardness	273 HV10
Percentage elongation at fracture	16%
Yield load strength (Rp0.2)	360 MPa
Modulus of elasticity	183 GPa
Release of ions in 7 days	1.75 µg/cm^2
Maximum firing temperature	980 °C
Colour	White

COBALT-CHROMIUM CE 0425
ACCORDING TO: ISO 22674

MAGNUM HYPERONE
TYPE 4

COMPOSITION

Titanium (Ti)	90%
Aluminium (Al)	6%
Vanadium (V)	4%
Others	Fe

PHYSICAL AND MECHANICAL PROPERTIES

Solidus-liquidus temperature	1605 ÷ 1660 °C
Melting point	1710 °C
Density	4.426 g/cm^3
Vickers hardness	312 HV10
Percentage elongation at fracture	14%
Yield load strength (Rp0.2)	880 MPa
Modulus of elasticity	114 GPa
Colour	White

TITANIUM CE 0425 ACCORDING TO: ASTM F136

DT
Danilo Carulli

OVERCASTING COMPONENTS AND COMPATIBLE SCREWS

MESA®

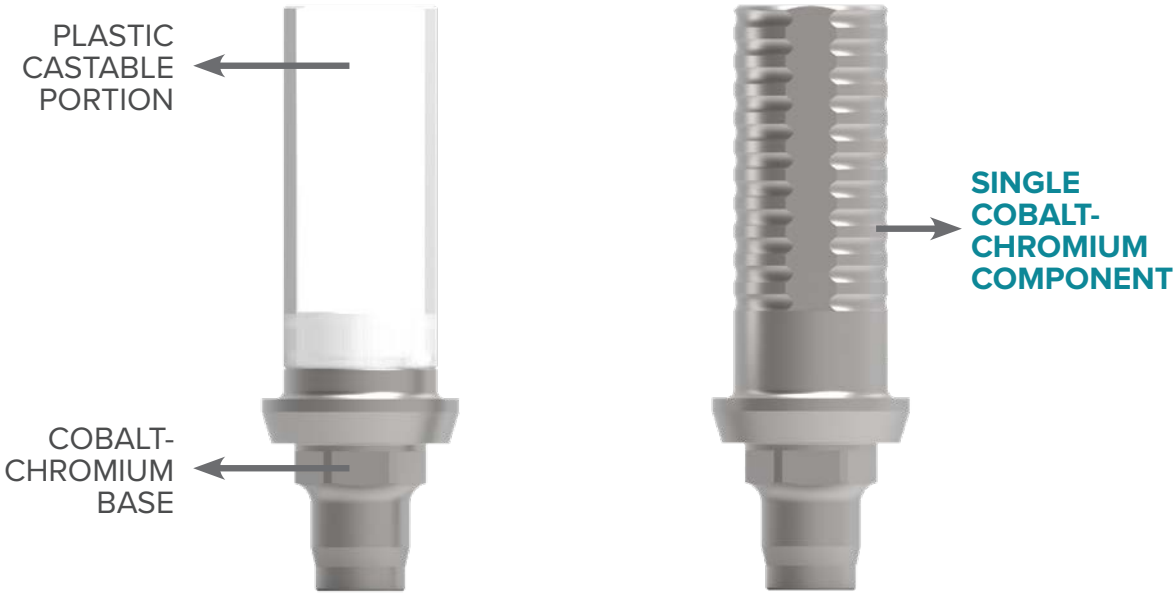
OVERCASTING
COMPONENTS
in Cobalt-Chromium

The MESA research and development team have collaborated with a group of dental technicians to design compatible Cobalt-Chromium abutments characterised by a completely unique mode of overfusion.

The Mesa Overcastables, characterised by optimal precision in engagement with the implant, have specific **advantages due to the absence of the traditional calcinable plastic modelling cannula**. The Mesa overcasting abutments are produced using the **Magnum Splendidum** Cobalt-Chromium alloy, which has excellent characteristics and is ideal for overfusion.

CHARACTERISTICS OF THE **MESA OVERCASTABLES**

The Mesa overcastables:
- replace the classic coupling system made of calcinable plastic;
- are compatible with major implant systems;
- are available in rotating and non-rotating versions;
- enable the creation of single crowns or multiple screwed frameworks.



CALCINABLE OVERCASTABLE

OVERCASTABLE MESA

THEY CAN BE USED FOR A VARIETY OF SOLUTIONS:
- Overfusion: with lost wax modelling or via digital modelling;
- Soldering;
- Bonding of milled or melting structure;
- They can also serve as abutments;
- Mua turrets in Cobalt-Chromium are also available.

WHY CHOOSE **MESA OVERCASTABLES?**

The Mesa overcastables are characterised by:

- **NON-DEFORMABLE SCREW PATH:**
  In the Mesa overcastables, the inner section is not affected by the casting and the screws fit perfectly inside the hole.

- **CASTING WITHOUT IMPURITIES IN THE SCREW CHANNEL:**
  Absence of possible combustion residues due to casting of the calcinable plastic, with a resulting improvement in the casting surface itself.

- **OPTIMAL SOLDERING BETWEEN THE TWO METALS:**
  The perfect coupling between the two alloys **Magnum Splendidum and Magnum Lucens** when melting results in optimal adhesion and ensures maximum precision in soldering while preventing the two metals from separating. Oxidation for both alloys is non-aggressive, comfortable, and clear.

ADVICE FOR **OVERFUSION ON** THE **MESA OVERCASTABLE**

A few technical notes suggested by our dental technician team:

- **Coating: only phosphate-bonded coatings should be used**
- **Preheating:** to ensure that the casting is complete, allow the cylinder to stand at 850°C for at least 50% more time than the standard.
- **Melting or casting:** avoid exceeding 1410°C when melting
  Cooling: allow the cylinder to cool to room temperature
  Opening the cylinder: do not use hydrofluoric acid to remove the coating.
- **Sandblasting:** Sandblast using fine sand (90µ to 150µ) at a pressure of 1.5/2.0 bar. Do not sandblast the implant connection.
- **Finishing:** do not use hydrofluoric acid to remove oxides.
- **Aesthetic coatings:** to ensure compatibility with the Co-Cr abutment, the ceramic must have a coefficient of thermal expansion (CTE) of no less than 90% of that of the alloy.

MESA OVERCASTABLES ASSURED PRECISION

BIOMET 3I®

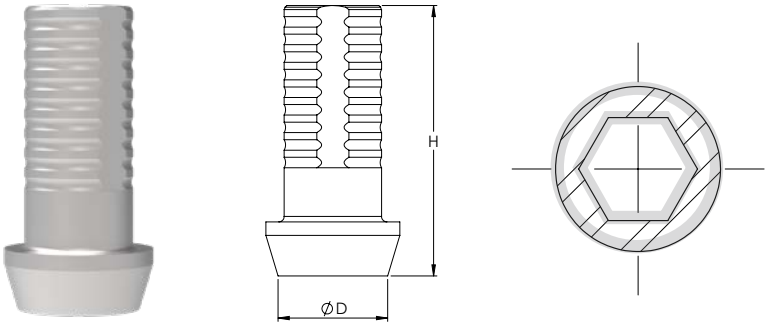
EXTERNAL HEXAGON

Compatible with:
GEASS® VENEZIA®

BIOTEC® BT KLASSIC®
(Ø ER - Ø EW)

WINSIX® TTX®
(Ø 3.8 - Ø 4.5 - Ø 5.2 - Ø 5.9)

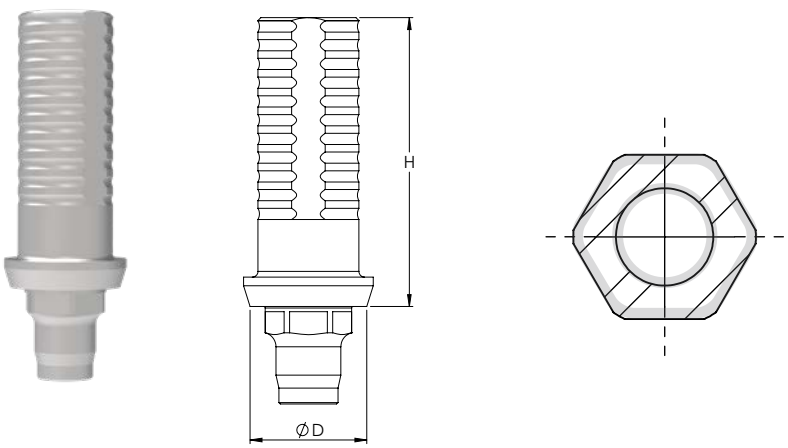
H mm	D mm	TYPE	CODE	SCREW CODE
10	3.40	non-rotating	OCA-**0037**	HYPERONE-SCR-**0923**
10	3.40	rotating	OCA-**0040**	
10	4.10	non-rotating	OCA-**0024**	HYPERONE-SCR-**0923**
10	4.10	rotating	OCA-**0011**	
10	5.00	non-rotating	OCA-**0038**	HYPERONE-SCR-**0923**
10	5.00	rotating	OCA-**0041**	
10	6.00	non-rotating	OCA-**0039**	HYPERONE-SCR-**0923**
10	6.00	rotating	OCA-**0042**	



BIOMET 3I®

CERTAIN®

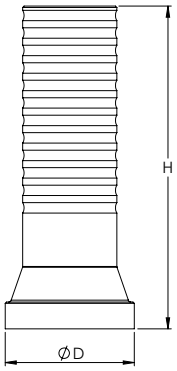
H mm	D mm	TYPE	CODE	SCREW CODE
10	3.40	non-rotating	OCA-**0014**	HYPERONE-SCR-**0904**
10	3.40	rotating	OCA-**0181**	HYPERONE-SCR-**0905**
10	4.10	non-rotating	OCA-**0016**	HYPERONE-SCR-**0904**
10	4.10	rotating	OCA-**0182**	HYPERONE-SCR-**0905**
10	5.00	non-rotating	OCA-**0015**	HYPERONE-SCR-**0904**
10	5.00	rotating	OCA-**0183**	HYPERONE-SCR-**0905**



BIOMET 3I®

MULTI UNIT
IN CO-CR

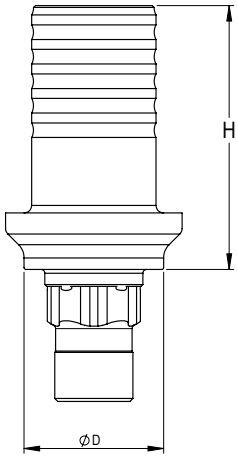
H mm	D mm	TYPE	CODE	SCREW CODE
12.5	4.80	-	OCA-**0021**	HYPERONE-SCR-**0903**

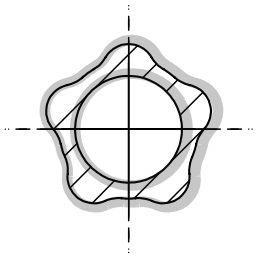


DENTAURUM®

TIOLOGIC®
TIOLOGIC® ST

H mm	D mm	TYPE	CODE	SCREW CODE
7	3.30	non-rotating	OCA-**0187**	
7	3.70	non-rotating	OCA-**0188**	HYPERONE-SCR-**0931**
7	4.20	non-rotating	OCA-**0189**	





JDENTAL CARE®
EVOLUTION®

H mm	D mm	TYPE	CODE	SCREW CODE
10	3.40	non-rotating	OCA-0176	HYPERONE-SCR-0914
10	3.40	rotating	OCA-0068	

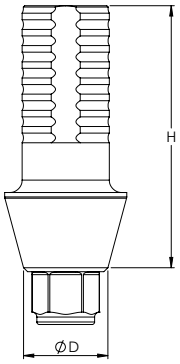
JDENTAL CARE®
EVOLUTION® PLUS

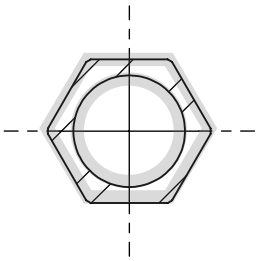
H mm	D mm	TYPE	CODE	SCREW CODE
10	3.40	non-rotating	OCA-0082	HYPERONE-SCR-0914
10	3.40	rotating	OCA-0068	

Compatible with:
NOBEL BIOCARE®:
NOBEL PARALLEL®
NOBEL REPLACE® CC

JDENTAL CARE® JD ICON®

IMPLANT DIRECT®
INTERACTIVE™



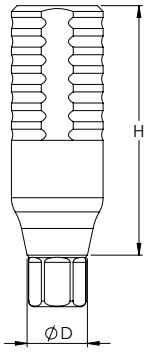


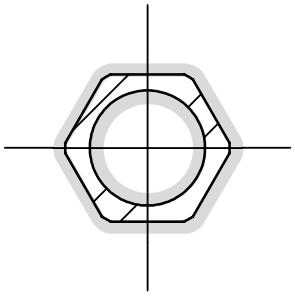
JDENTAL CARE®
EVOLUTION® S

H mm	D mm	TYPE	CODE	SCREW CODE
8	3.00	non-rotating	OCA-0069	HYPERONE-SCR-0913
8	3.00	rotating	OCA-0071	

JDENTAL CARE®
JD ICON® ULTRA.S

H mm	D mm	TYPE	CODE	SCREW CODE
8.7	2.10	non-rotating	OCA-0158	HYPERONE-SCR-0924
8.7	2.10	rotating	OCA-0159	

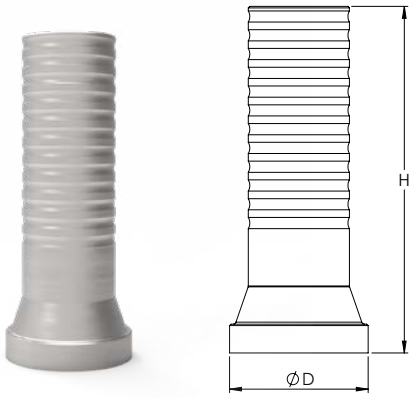




JDENTAL CARE®

MULTI UNIT IN CO-CR

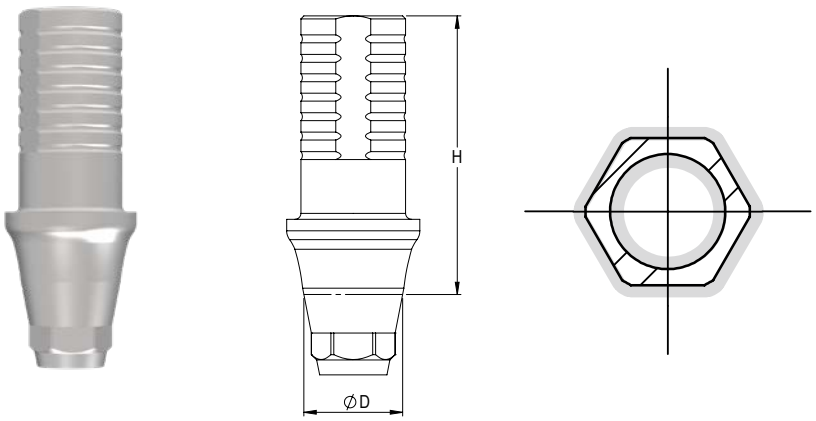
H mm	D mm	TYPE	CODE	SCREW CODE
12	4.80	-	OCA-**0148**	HYPERONE-SCR-**0937**



MEGAGEN®

ANYONE®

H mm	D mm	TYPE	CODE	SCREW CODE
9	3.30	non-rotating	OCA-**0080**	HYPERONE-SCR-**0920**
9	3.30	rotating	OCA-**0147**	



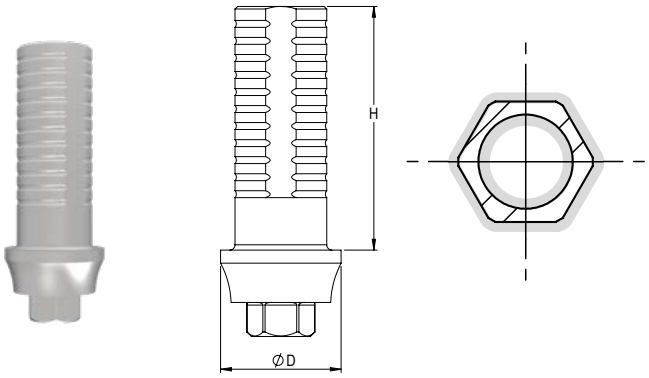
SWEDEN & MARTINA®

PREMIUM KOHNO ONE®

Compatible with:
SWEDEN & MARTINA® SHELTA

***CAUTION!**
For Premium and Khono connections with a diameter of 4.25 and 5.00 prior to the year 2021, please make a specific request to the company.

H mm	D mm	TYPE	CODE	SCREW CODE
9	3.30	non-rotating	OCA-**0003**	HYPERONE-SCR-**0906**
9	3.30	rotating	OCA-**0048**	
9	3.80	non-rotating	OCA-**0012**	HYPERONE-SCR-**0906**
9	3.80	rotating	OCA-**0049**	
9	4.25*	non-rotating	OCA-**0012**	HYPERONE-SCR-**0906**
9	4.25*	rotating	OCA-**0049**	
9	5.00*	non-rotating	OCA-**0012**	HYPERONE-SCR-**0906**
9	5.00*	rotating	OCA-**0049**	



SWEDEN & MARTINA®

OUTLINK2®

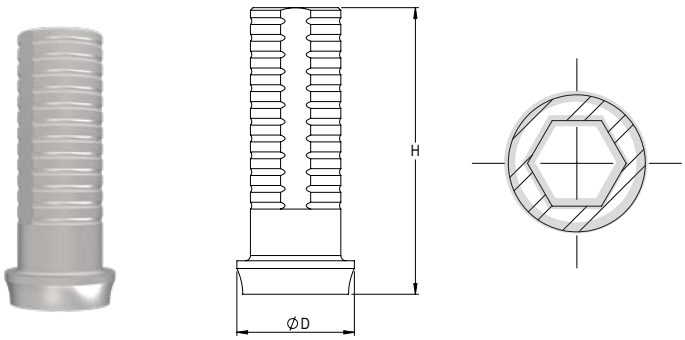
Compatible with:
OUTLINK® (Ø 4.1 - Ø 5.0)

GEASS® VENEZIA®

BIOTEC® BT KLASSIC®
(Ø ER - Ø EW)

WINSIX® TTX®
(Ø 3.8 - Ø 4.5 - Ø 5.2 - Ø 5.9)

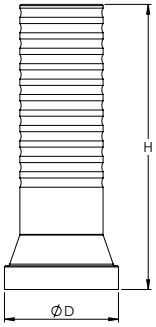
H mm	D mm	TYPE	CODE	SCREW CODE
11	3.30	non-rotating	OCA-**0051**	HYPERONE-SCR-**0922**
11	3.30	rotating	OCA-**0055**	
11	4.10	non-rotating	OCA-**0052**	HYPERONE-SCR-**0901**
11	4.10	rotating	OCA-**0020**	
11	5.00	non-rotating	OCA-**0054**	HYPERONE-SCR-**0901**
11	5.00	rotating	OCA-**0053**	



SWEDEN & MARTINA®

MULTI UNIT IN CO-CR

H mm	D mm	TYPE	CODE	SCREW CODE
12	5	-	OCA-**0201**	HYPERONE-SCR-**0932**



ZIMMER®

SCREW VENT

H mm	D mm	TYPE	CODE	SCREW CODE
00	3.50	non-rotating	OCA-**0007**	
00	3.50	rotating	OCA-**0022**	HYPERONE-SCR-**0911**
00	4.50	non-rotating	OCA-**0059**	
00	4.50	rotating	OCA-**0060**	

Compatible with:
COMPATIBLE ABUTMENTS®

ARIAL CX and LT

ALPHA BIO® SPI® ICE® DFI® ATID® NEO®

MISS® SEVEN®
(Ø 3.75 - Ø 4.2 - Ø 5.0)

JDENTAL CARE® JDEVOLUTION® PLUS+

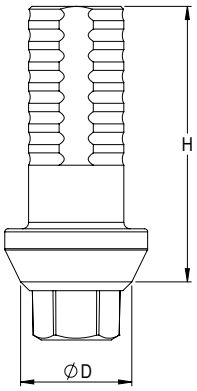
WHITEK® IMPLANT

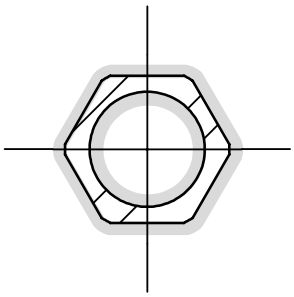
NORIS MEDICAL® TUFF® ONYX®

IMPLANT DIRECT® LEGACY®

KRUGG® INTERNAL®

KRISTAL® BIO IMPLANT® CORE V2® K-CORE V2®

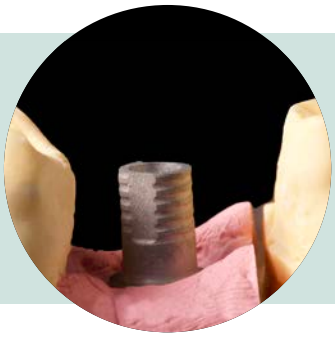




EXAMPLES OF **PROSTHETIC PRODUCTS**

STEPS FOR OVERFUSION

DT Danilo Carulli

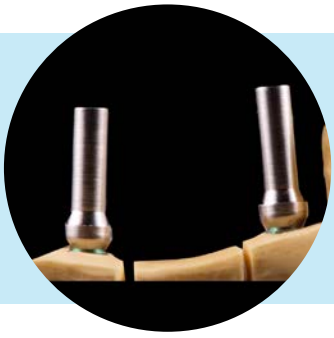


Mesa Overcastable

Overfusion

SCREWED BRIDGE, CAST ON CO-CR MUA TURRETS

DT Danilo Carulli

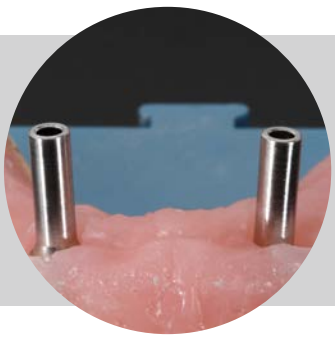


Mua turret positioned on model

Adjustment of turret height as required

TORONTO TYPE PROSTHESIS CAST ON CO-CR TURRETS

DT Adriano Richelli



Turret positioning on the model

Overcastable cut according to the vertical size available

Wax modelling

Ceramisation

Polishing

3D printing of digital design

Adaptation and refinement

Adaptation and bonding of plastics obtained by CAD drawing and 3D printing

A detail of the overfusion once finished

COMPATIBLE SCREWS
in GRADE 23 TITANIUM

The brands mentioned are not the property of Mesa Italia Srl.
All logos and trademarks are the property of their respective owners and are only mentioned to simplify product searches.
Compatible products are exclusively non-original spare parts.

COMPATIBLE ABUTMENTS

LINE	THREAD	D mm	CODE
ARIAL CX-LT	M 1.8	3.50	SCR-**0911**
		4.50	SCR-**0911**

ALPHA BIO®

LINE	THREAD	D mm	CODE
SPI - ICE - DFI ATID - NEO	M 1.8	3.50	SCR-**0911**
		4.50	SCR-**0911**

BIOMET 3i®

LINE	THREAD	D mm	CODE
EXTERNAL HEXAGON	M 2	3.40	SCR-**0923**
		4.10	SCR-**0923**
		5.00	SCR-**0923**
		6.00	SCR-**0923**
CERTAIN	M 1.6	rotating 3.4 - 4.1 - 5.0	SCR-**0905**
		non-rotating 3.4 - 4.1 - 5.0	SCR-**0904**
MUA	M 1.4	4.80	SCR-**0903**

BIOTEC

LINE	THREAD	D mm	CODE
BT KLASSIC EXT (ER-EW)	M 2	3.40	SCR-**0923**
		4.10	SCR-**0923**
		5.00	SCR-**0923**
		6.00	SCR-**0923**

DIO IMPLANT

LINE	THREAD	D mm	CODE
UF - UF II	M 2	4.50	SCR-**0938**

GEASS

LINE	THREAD	D mm	CODE
VENEZIA	M 2	3.40	SCR-0923
		4.10	SCR-0923
		5.00	SCR-0923
		6.00	SCR-0923

IMPLANT DIRECT®

LINE	THREAD	D mm	CODE
LEGACY	M 1.8	3.50	SCR-0911
		4.50	SCR-0911

J DENTAL CARE®

LINE	THREAD	D mm	CODE
EVOLUTION S	M 1.6	3.20	SCR-0913
		3.70	SCR-0913
EVOLUTION EVOLUTION PLUS	M 1.8	4.30	SCR-0914
		5.00	SCR-0914
		6.00	SCR-0914
ICON ULTRAS	M1.4	3.20	SCR-0924
MUA	M1.4		SCR-0937

KRISTAL®

LINE	THREAD	D mm	CODE
BIO IMPLANT CORE V2 - K-CORE V2	M 1.8	3.50	SCR-0911
		4.50	SCR-0911

KRUGG®

LINE	THREAD	D mm	CODE
INTERNAL	M 1.8	3.50	SCR-0911
		4.50	SCR-0911

MEGAGEN®

LINE	THREAD	D mm	CODE
ANYONE	M 2	-	SCR-0920

MIS®

LINE	THREAD	D mm	CODE
SEVEN - M4	M 1.6	3.30	SCR-0908
	M 1.8	3.75	SCR-0909
		4.20	SCR-0909

NORIS MEDICAL

LINE	THREAD	D mm	CODE
TUFF - ONXY	M 1.8	3.50	SCR-0911
		4.50	SCR-0911

NOBEL®

LINE	THREAD	D mm	CODE
ACTIVE	M 1.6	3.75	SCR-0921
		4.30	SCR-0918
	M 2	5.00	SCR-0918
		5.50	SCR-0918

SWEDEN & MARTINA®

LINE	THREAD	D mm	CODE
PREMIUM KOHNO	M 1.8	3.30	SCR-0906
	M 1.8	3.80	SCR-0906
	M 2	4.25	SCR-0907
	M 2	5.00	SCR-0907
OUTLINK	M 1.8	3.30	SCR-0922
	M 2	4.10	SCR-0901
	M 2	5.00	SCR-0901

WHITEK IMPLANT®

LINE	THREAD	D mm	CODE
-	M 1.8	3.50	SCR-**0911**
		4.50	SCR-**0911**

WINSIX®

LINE	THREAD	D mm	CODE
TTX	M 2	3.80	SCR-**0923**
		4.50	SCR-**0923**
		5.20	SCR-**0923**
		5.90	SCR-**0923**

ZIMMER®

LINE	THREAD	D mm	CODE
SCREW VENT	M 1.8	3.50	SCR-**0911**
		4.50	SCR-**0911**

MESA **COMPATIBLE ABUTMENTS** AND **SCREWS**

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NOTES

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