

New as of:

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# inCoris NP

## Operating Instructions

**English**



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# 1 Technical Data

**Intended use**

CoCr burn-on alloy for crown and bridge techniques (free from nickel and beryllium according to EN ISO 9693 and DIN EN ISO 22674)

**CE mark**



**Chemical composition [mass %]**

Co	Cr	Mo	W
60.0	26.0	5.8	5.7

C; Ce; Fe; Mn; Si

**Mechanical properties**

Proof stress	R <sub>p0.2</sub>	MPa	> 1000
Tensile strength	R <sub>m</sub>	MPa	> 1300
E-module	E	GPa	> 160
Elongation at break	A <sub>5</sub>	%	> 3
Hardness	HV 10		400 ± 50

**Physical properties**

Density	ρ	g/cm	8.6
Melting interval	ϑ	°C	1420 - 1450
Thermal expansion coefficient	CTE (25°C - 500°C)	10 <sup>-6</sup> K <sup>-1</sup>	14.2

## 2 Processing hints

### 2.1 Application procedure

inCoris NP burn-on alloy is generatively converted to dental restorations from an electronic record only via direct metal laser sintering in variations such as e.g. "Selective Laser Melting (SLM)", "Direct Metal Laser Sintering (DMLS)", etc.

### 2.2 Veneer

#### Preparation:

Processing if necessary with a fine, cross-toothed hard-metal burr, a ceramic-bonded grinding tool or an abrasive diamond pencil with a single-layer galvanic coating. Sandblasting of restorations, especially of surfaces to be veneered, with corundium having a particle size of 125 - 250 µm (e.g. Korox® 250) at 3 - 4 bar. Then the restorations must be thoroughly cleaned (e.g. steam blasted or boiled in distilled water). After cleaning the restorations, hold them with a pair of artery forceps or a similar instrument and do not touch them again.

The frameworks can be veneered with veneering ceramics that correspond to the CTE value (e.g. Ivoclar Vivadent d.SIGN).

#### CAUTION

##### **Metallic powders may be dangerous to one's health:**

A suction removal system and a respirator mask with a type P3 fine dust particle filter (e.g. FFP3-EN149:2001) must be used when manually performing mechanical processing and sandblasting.

#### Oxide firing:

Only if necessary, i.e. possibly to check the surface. If oxide firing is used, set the temperature to 950°C - 980°C and perform for 5 - 6 minutes under vacuum. Following oxide firing, sandblast the restorations with corundium having a particle size of 250µm (e.g. Korox® 250) at 3 - 4 bar. Then the restorations must be thoroughly cleaned (e.g. steam blasted or boiled in distilled water). After cleaning the restorations, hold them with a pair of artery forceps or a similar instrument and do not touch them again.

#### Ceramic firing:

The ground coat should always be applied in two layers. Each individual layer is fired. The first layer must be applied thinly (washbrand). The second layer must be applied as a cover coating. The restorations must be rinsed off under running water prior to each ceramic coating.

Slow cooling is recommended (cooling phase down to approx. 600°C). Ceramics or ceramic residues must be removed mechanically. Hydrofluoric acid (HF) corrodes the metal framework.

## NOTICE

The application information and recommendations of the ceramics manufacturer must be observed when processing the relevant burn-on ceramics. Generally speaking, burn-on ceramics can be used at firing temperatures of up to approx. 980°C according to DIN EN ISO 9693. Burn-on ceramics can also be processed at a reduced firing temperature.

### 2.3 Aftertreatment

Visible metal surfaces must be sandblasted with corundium having a particle size of 50 µm. Then the outer surfaces can be blast-polished with a suitable blasting abrasive, e.g. Perlablast®. Further surface finishing is initially performed with rubber polishing, and finally using cobalt-chromium polishing paste. Finally, the finish-worked restorations must be thoroughly cleaned (e.g. steam blasted or boiled in distilled water).

### 2.4 Soldering and welding

**inCoris NP** is basically solderable and weldable. The instructions for laser welding and soldering provided by the manufacturers of the unit and of the laser welding wire or solder used must be observed. Furthermore, it is also advisable to use CoCr laser welding wire or solder, e.g. manufactured by Dentaaurum; Bego or a comparable firm.

### 2.5 Side effects

Allergies to components of the alloys are possible in rare cases.

### 2.6 Interactions

In case of occlusal or approximal contact between different alloys, electrochemically induced paresthesia may result in rare individual cases.

### 2.7 Contraindications

- in case of proven incompatibilities and
- allergies to components of alloy

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We reserve the right to make any alterations which may be required due to technical improvements.

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