

4all[®]



Nickel-Chrome ceramic alloy

Predominantly base alloy with ideal mechanical and physical properties for conventional metal ceramics.

Ni 61.4	Cr 25.7	Mo 11.0	Si 1.5	Mn <1.0	Al <1.0	C <1.0
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Advantages

- Excellent melting and flow properties
- Easy to divest
- Reduced hardness
- Works with conventional metal ceramics
- Certified biocompatibility

Indication

Telescope / conus crowns, posts, long and short span bridges, PFM crowns

Technical data

Colour	white
Type	4
Density (g/cm ³)	8.4
Melting range (°C)	1260 - 1350
Casting temperature (°C)	1405 - 1465
CTE 25 - 500 °C	13.9
CTE 20 - 600 °C	14.1
Elongation (%)	12.0
Modulus of elasticity (MPa)	200,000
Oxide firing °C / minutes / vacuum	950 / 1 / no vac.
Vickers hardness	235
0.2 % proof stress (MPa)	375



Certificate

Test material: 4all®

Composition in % weight	Ni	Cr	Mo	Si	Mn	Al	C
4all®	61.4	25.7	11.0	1.5	<1.0	<1.0	<1.0

Manufacturer

Ivoclar Vivadent AG, Bendererstrasse 2, FL-9494 Schaan, Liechtenstein

Corrosion resistance

The test was conducted according to the international regulations of ISO 1562 and ISO 6871-1: static immersion test through analytical determination of the metal ion release after a 7-day immersion.

Test results: The metal ion release after 7 days of immersion was not significant.

Testing facility: Louisiana State University, Dr. Sakar

Cytotoxicity

The Agar Diffusion test determines the biological reactivity of cell culture on test material.

Test results: The test material is considered non-cytotoxic and meets the requirements of the Agar Diffusion test according to ISO 10993-5.

Sensitivity of oral mucosa

Test to determine the contact sensitivity of the 4all alloy at the buccal oral mucosa.

Test results: No reactions were noted in conjunction with 4all.

Testing facility: Toxikon Corporation, 15 Wiggins Avenue, Bedford, Massachusetts

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