

# CERTIFICATE

## Biocompatibility Test

### Material tested

## Porta Smart XXL

Dental alloy for ceramic-fused-to-metal technique

### Composition

| Co   | Cr   | Pt   | Ru   | Mo  | Si  | Ga  | Nb  | W   | Ti  |
|------|------|------|------|-----|-----|-----|-----|-----|-----|
| 42.0 | 21.3 | 15.0 | 10.0 | 4.0 | 1.5 | 5.0 | 0.5 | 0.5 | 0.2 |

in % by mass

### Manufacturer

Wieland Dental + Technik GmbH & Co. KG  
Schwenninger Straße 13 · D-75179 Pforzheim

### Tests

We confirm that the following tests for determining the biocompatibility of the dental alloy were carried out in accordance with the international standards EN ISO 10993, "Biological evaluation of medical devices" (EN ISO 10993-1, EN ISO 10993-2, EN ISO 10993-5, EN ISO 10993-10, EN ISO 10993-12), and EN ISO 7405, "Dentistry – Preclinical evaluation of biocompatibility of medical devices used in dentistry – Test methods for dental materials".

The tests were performed according to the OECD directives "Good Laboratory Practice" (GLP) by the Institute BSL Bioservice Scientific Laboratories.

The tests were coordinated and monitored by Dr. Henning + Co.

The test items were produced by a commercial dental laboratory according to the instructions of the manufacturer.

### Cytotoxicity

The cytotoxic potential of the dental alloy was tested in vitro with L-929 fibroblasts.

Method: "Test on extracts", XTT staining, EN ISO 10993-5: 1999, EN ISO 10993-12: 1996, and EN ISO 7405: 1997 (5.4.a)3)).

Test result:

**Porta Smart XXL had no cytotoxic potential**

### Allergic sensitization

The allergic sensitization was tested with the Maximisation Test (Magnusson-Kligman),

EN ISO 10993-10: 2002, (6.3) "Tests for irritation and sensitization", EN ISO 7405: 1997 (5.4.b)5)), OECD 406-92, and Directive 92/69 EEC, B.6.

Test result:

**Porta Smart XXL did not cause allergic sensitization**

**Dr. Henning + Co., Dental Engineering**

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Basle, February 10, 2003