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Premium Abutment Surface



It all depends on the surface – Panther Abutment Surface

A controlled, verified approach to the correct preparation of
submucosal surfaces on implant abutments and bars

Our solution

Perfect surfaces with the Panther Abutment Surface concept



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The Panther Abutment Surface set is a controlled, proven two-stage protocol for the correct preparation of submucosal surfaces on implant abutments and bars in a two-stage procedure.

Controlled. Verified. Reliable.



The problem

Process-related impurities on CAD/CAM abutments



SEM images of the submucosal surface of a hybrid abutment

Contamination is visible on the surface. The image shows extensive impurities after bonding. These deposits can only be removed by means of a coordinated processing protocol with subsequent ultrasonic cleaning.

Comparison: Before and after cleaning with the Finevo Cleaning System (FCS)

The figure shows a zirconia abutment before and after cleaning. The 'BEFORE' image shows a dark, irregular deposit on the surface. The 'AFTER' image shows the abutment is clean and free of contamination. A circular inset SEM image shows a magnified view of the deposit, with a red crosshair indicating a specific point of interest.

BEFORE
Significant contamination on the zirconia abutment

AFTER
Zirconia abutment without contamination after correctly executed Panther Abutment Surface processing protocol and subsequent cleaning with the Finevo Cleaning System (FCS)

Composition of deposits on the zirconia CAD/CAM abutment

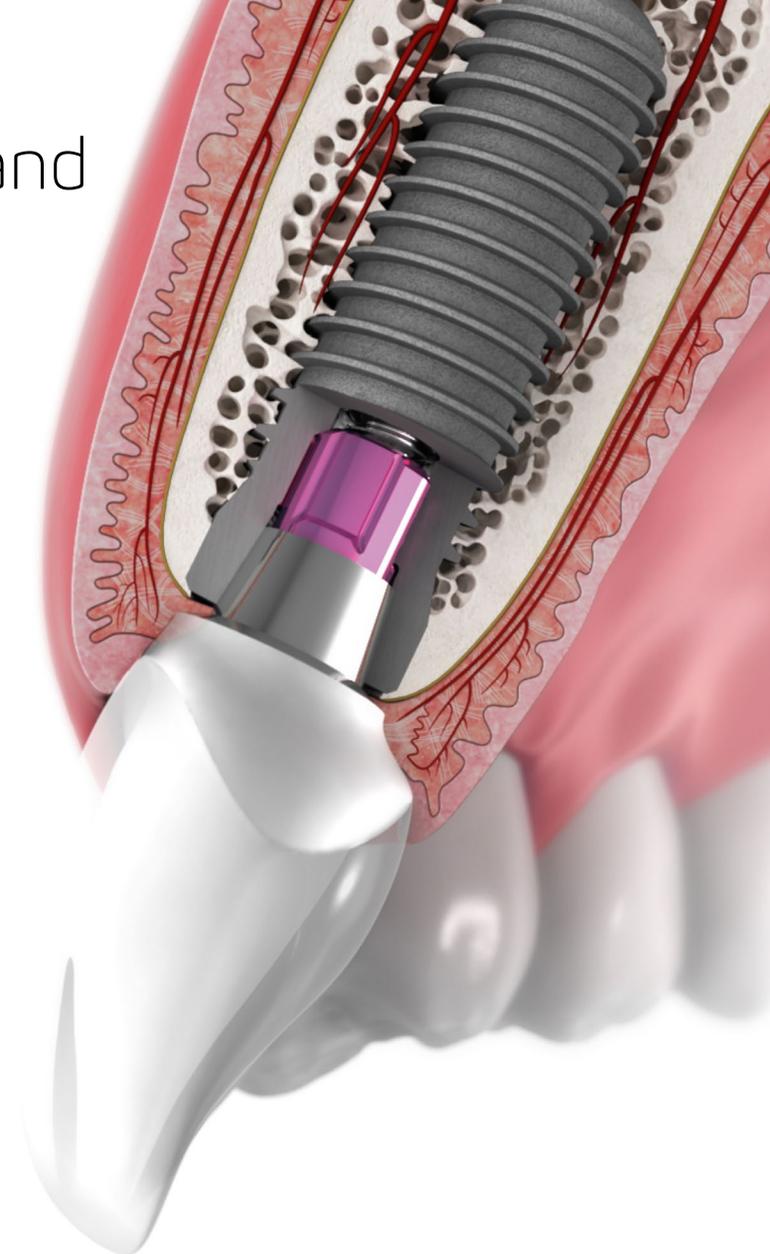
Carbon	25.17
Oxygen	20.82
Nitrogen	8.42
Zirconium	39.65
Yttrium	3.91
Sulphur	1.20
Silicon	0.83

Abutment hygiene and surface topography

CAD/CAM abutments are supplied with rough surface spots, deposits and inclusions (debris) as well as organic and inorganic impurities caused by the manufacturing process. By definition, abutments are medical devices (semicritical components/contact with mucous membranes) and must be cleaned to achieve the disinfection level required by the applicable standard (DIN EN ISO 17664).

Examples of process-related impurities in CAD/CAM abutments are milling chips, coolant or chemical residue from surface treatment. All CAD/CAM abutments – whether milled in the laboratory or produced at a milling centre – are exposed to the same potential sources of contamination. In the case of laboratory milling, additional deposited sandblasting material, excess adhesive, hand grease, polishing agents and gumming residue may be expected.

However, initial studies have shown that inadequately decontaminated abutments could result in increased peri-implant bone resorption.^[1, 2]



[1] Canullo L, Peñarrocha D, Clementini M, Iannello G, Micarelli C. Impact of plasma of argon cleaning treatment on implant abutments in patients with a history of periodontal disease and thin biotype: radiographic results of 24-month follow-up of an RCT. *Eur J Oral Implantol.* 2013; 6: 251–260.

[2] Canullo L, Tallarico M, Peñarrocha-Oltra D, Monje A, Wong HL, Peñarrocha-Diogo M. Implant abutment cleaning by plasma of argon: 5-year follow-up of a randomized controlled trial. *J Periodontol.* 2016; 87: 434–442.



The Panther Abutment Surface protocol

For perfect surfaces

The Panther Abutment Surface Kit (developed in collaboration with sirius ceramics) enables the dental technician to achieve the required average surface roughness for all abutment materials (zirconia, lithium disilicate, titanium) in a controlled two-stage process. The optimally coordinated Panther concept can be applied to one-piece titanium and ceramic abutments as well as hybrid abutments and hybrid crowns. Submucosal areas of bars (EMF, titanium) can be given the optimal surface topography. The instruments are available in the two different configurations, rough and smooth, as well as in two geometries, Lens 150 and Lens 260.



Step 1 /

Bonding of the two-part abutment according to manufacturer's specifications (CAD/CAM hybrid abutments or hybrid crowns)

Excess adhesive should not be removed manually before curing. The use of a system-specific bonding agent is recommended. Colour markings help to position the individual components in the bonding process.



Step 2 /

Removal of excess after adhesive setting with Panther edition "rough"

After the adhesive has set completely, Panther edition "rough" (orange) is used. Coarse excess adhesive is carefully removed. The diamond grain performs rough work in the micrometre range without the instrument becoming clogged with adhesive. The instrument achieves an average roughness of approximately 0.91 μm .



Step 3 /

Creating a defined surface topography with Panther edition "smooth"

The Panther edition Lens smooth (purple) achieves an average roughness of approximately 0.34 μm , which corresponds to the required surface topography. The instruments will not overheat, guaranteeing a material-saving procedure.



Step 4 /

Cleaning

The Fine Cleaning System (FCS/Bredent) cleans all abutment types and abutment superstructures according to a tested three-stage shortened ultrasonic process in three different baths (5 minutes at 30°C in each of them). This safely removes processing residue and impurities on the titanium, zirconia or hybrid ceramic surface.



Result /

Clean surfaces with a well-defined residual roughness

The combination of correct Panther Abutment Surface processing and tested ultrasonic cleaning represent the state of the art in implant-prosthetic reconditioning. Hybrid abutments will be rendered antibacterial and aseptic. It is advisable to agree on a coordinated procedure with the partner laboratory in everyday practice.



“Verified!
Implant prosthetics based on
a systematic process!”

Pascal Holthaus

Pascal Holthaus Zahntechnik, Münster, Germany



“For quite some time now I have been looking for a set of rotating tools that would support a verifiable procedure in implant prosthodontics. I want to be sure that the restorations I make maximise clinically success. I owe that to my dentists and their patients.”

Claus-Peter Schulz

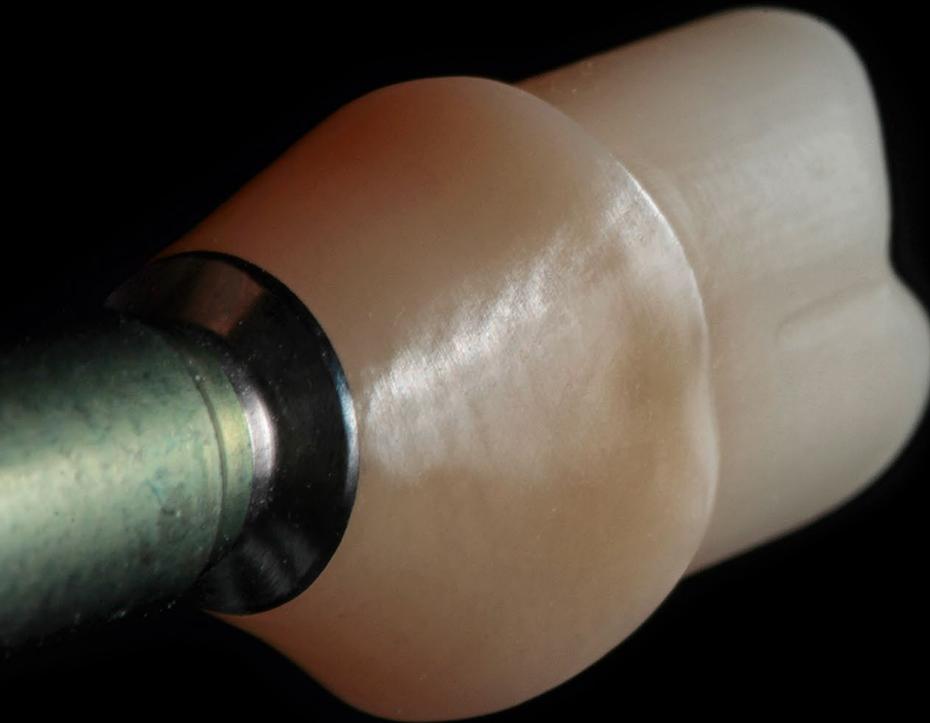
Zahntechnik Gebrüder Schulz, Baden-Baden, Germany



“Conceptual!
Dental technology
needs validated
concepts.”

Simon Schömer

Dentalzentrum Bayreuth, Bayreuth, Germany



What users
want...

“Especially abutments in the transgingival region have a considerable influence on a stable long-term result. I would like to work ONLY according to a validated concept and with highly specific tools for the purpose.”

Pascal Holthaus

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Panther Abutment Surface Kit

Special instruments for submucosal aspects of implant structures made of zirconia, lithium disilicate (LS2) and feldspar ceramics.

Complete set of 4

7,000-12,000 ↻ max. 20,000 ↻

Target material

Zirconia, lithium disilicate, titanium

Grit

extra coarse/medium

Diameter

150/260

Shank

HP Ø 2,35 mm

Abrasive material

Diamonds, silicon carbide

Supplied in a high-quality aluminium stand

Distributor:

SUN Oberflächentechnik GmbH



SUN Oberflächentechnik GmbH

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