

Indications and framework sizes

Indications and contraindications for Compartis restorations

	ZrO₂ by Compartis	BiOclus Kiss/ Degunorm by Compartis	CoCr by Compartis	Ti by Compartis
Framework material	Zirconia (Y-TZP)	Precious-metal dental alloy	Cobalt-chromium alloy	Grade 4 titanium
Indications Anterior and posterior	Abutments, single-piece primary telescope crowns Crowns Multi-unit bridges (with no more than two pontics between abutment crowns)	Primary telescope rows Crowns Multi-unit bridges	Primary telescope rows Crowns Multi-unit bridges	Single-piece abutments – Crowns Multi-unit bridges
Contraindications Anterior and posterior	Bruxism or recalcitrant parafunctional habits (as usual for all ceramically veneered frameworks). Do not use a non-sensitivity to the respective framework material. Avoid occlusal and proximal contact of different alloy types.			
Temporary cementation	Possible	Possible	Possible	Possible
Definitive cementation	Adhesive cementing			
	Conventional cementing	Conventional cementing	Conventional cementing	Conventional cementing

Framework dimensions (anterior und posterior):

	ZrO₂ by Compartis	BiOclus Kiss/ Degunorm by Compartis	CoCr by Compartis	Ti by Compartis
Wall thickness, single crowns	0.4 mm	0.4 mm	0.4 mm	0.4 mm
Margin thickness, single crowns	0.2 mm	0.2 mm	0.2 mm	0.2 mm
Wall thickness, bridges	0.5 mm	0.5 mm	0.5 mm	0.5 mm
Margin thickness, bridges	0.2 mm	0.2 mm	0.2 mm	0.2 mm

Additional dimensional requirements for the anterior region

	ZrO₂ by Compartis	BiOclus Kiss/ Degunorm by Compartis	CoCr by Compartis	Ti by Compartis
Number of pontics	2	2	2	2
Connector cross-section	9 mm ²	9 mm ²	9 mm ²	9 mm ²

Additional dimensional requirements for the posterior regions

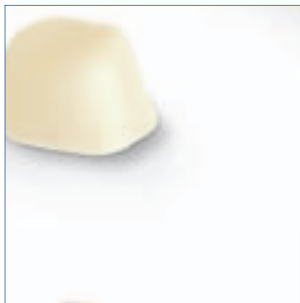
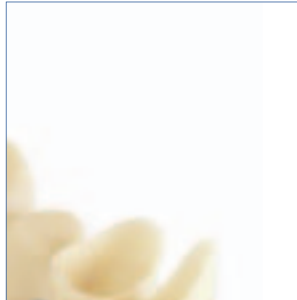
	ZrO₂ by Compartis	BiOclus Kiss/ Degunorm by Compartis	CoCr by Compartis	Ti by Compartis
Number of pontics	2	2	2	2
Connector cross-section	9 mm ²	12 mm ²	9 mm ²	12 mm ²
Cantilever pontic at tooth position (only one pontic up to one premolar width)	Up to the second premolar	Up to the second premolar	Up to the second premolar	Up to the second premolar
Connector cross-section for this cantilever pontic	12 mm ²	12 mm ²	12 mm ²	12 mm ²


Minimal design sizes for CoCr by Compartis bars, designed with 3Shape DentalDesigner

For rectangular or elliptical bars as well as Dolder bars	3.5 mm x 2.5 mm (height x width)
For circular bars	3.5 mm Ø

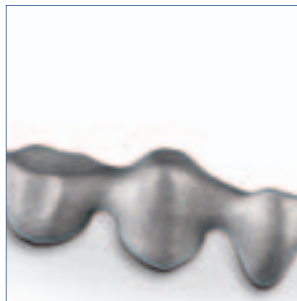
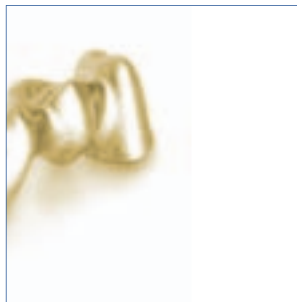
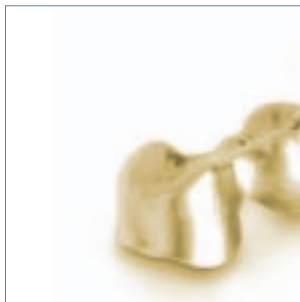
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Compartis®
integrated systems

Instructions for Use
for crown and bridge
frameworks



Instructions for Use

ZrO₂ by Compartis

Product description

ZrO₂ by Compartis® are custom frameworks for dental crown and bridge restorations made of zirconia. These are individually fabricated to your digital design specifications such as anatomic form, framework wall thickness and connected diameter and cementing gap. The frameworks must be veneered with a suitable ceramic material at the dental laboratory.

Indications

Abutments* • Primary telescope crowns • Crowns • Multi-unit bridges with up to 16 units (with two pontics between abutment crowns).

* See separate Custom abutments by Compartis Instructions for Use

Contraindications

For dental ceramic veneers: Bruxism or recalcitrant parafunctional habits. Do not use in known sensitivity to zirconia or other components of the material.

Interactions

None known.

Safety warnings

Avoid inhaling dust and vapours while in contact with this product

- When using, do not eat or drink
- Do not swallow the product.

Precautions

Use suction and suitable mouth/face protection during grinding.

- The safety and warning notes listed here describe how to use the product in a safe and risk-free manner. Notify the dentist in charge of all factors described above if you use this medical product for a custom design and make sure to comply with the pertinent Material Safety Data Sheets (MSDS).

Adverse effects

If properly processed and used, adverse effects of this medical product are highly unlikely. However, reactions of the immune system (such as allergies) to substances contained in the material or localized paraesthesia (such as taste disturbances or irritation of the oral mucosa) cannot be completely ruled out as a matter of principle. Should you hear or receive information about any adverse effects – even when doubtful – we would like to request notification.

Transport and storage

Protect all workpieces from shock and impact during transport and storage.

Technical specifications

Coefficient of thermal expansion: 10.5 µm/m · K (25–500 °C)

- Flexural strength: approx. 1,200 MPa (three-point flexural testing)
- Modulus of elasticity: 210 GPa.

Composition (in mass %)

- Zirconium oxide
- Yttrium oxide 5 %
- Hafnium oxide < 2 %
- Aluminium oxide and silicon oxide < 1 % (total: 100 %).

Reuse

The product is not reusable.

Manual finishing

1. Sandblast the inside and outside of the framework with aluminium oxide (max. 125 µm, max. 3–4 bar, 45° angle – no frontal application).

2. Eliminate premature contacts one by one until the framework has reached its final position on the die(s). During the try-on and fitting of the framework, keep the dies on the cast and try on the framework as a whole.

3. Once the try-on and fitting work has been completed, do not perform any additional adjustments such as finishing the entire framework.

Note: Zirconia crown or bridge abutments should fit passively, without friction.

The rationale for requiring a passive fit lies in the physical properties of the material itself: Ceramics will tolerate compressive stress but not tensile stress. In crowns that exhibit a friction fit, this friction is generated by certain “bearing” parts of the framework, as the crown itself never rests completely on the die due to processing-related surface roughness (the same actually holds for cast-metal frameworks). So it is only the peaks of the surface roughness (the named “bearing” parts) that are in contact with the die surface. This converts the compressive forces generated by masticatory pressure into tensile forces, which may well damage the crown.

4. Adapt the framework margins exactly to the preparation margins.

Note: ZrO_2 should be finished using diamond instruments under proper irrigation only. Keep the pressure on the framework material to a minimum and work only in one direction.

5. Sandblast the finished areas once again with aluminium oxide (max. 125 μm , max. 3–4 bar, 45° angle).

6. Finally, clean the framework using a steam cleaner.

Veneering

As you proceed to veneering the framework with a ceramic veneering material, make sure to follow the Instruction for Use of the veneering material you prefer, which must be appropriate for the framework material.

Annealing

Based on the results of our scientific testing of Compartis ZrO_2 frameworks, we consider a separate annealing (“healing”) step both unnecessary and inappropriate.



Instructions for Use

BiOclus® Kiss by Compartis

Product description

BiOclus® Kiss by Compartis® are custom high-gold ceramic-bonding frameworks for dental crown and bridge restorations fabricated to your digital design specifications such as anatomic form, framework wall thickness and connector diameter and cementing gap.

Indications

Primary telescope crowns • Crowns • Multi-unit (up to 6 units) anterior or posterior bridges

Contraindications

For dental ceramic veneers: Bruxism or recalcitrant parafunctional habits. Do not use in known sensitivity to one or several metals contained in the alloy.

Interactions

Avoid occlusal and proximal contacts of different alloy types.

Safety warnings

Avoid inhaling dust and vapours while in contact with this product
• When using, do not eat or drink • Do not swallow the product.

Precautions

Use suction and suitable mouth/face protection during grinding.
• Note the melting interval when setting the firing temperature for dental ceramics and when soldering. Check and calibrate your ceramic furnace for this temperature range. • The safety and warning notes listed here describe how to use the product in a safe and risk-free manner. Notify the dentist in charge of all factors described above if you use this medical product for a custom design and make sure to comply with the pertinent Material Safety Data Sheets (MSDS).

Adverse effects

If properly processed and used, adverse effects of this medical product are highly unlikely. However, reactions of the immune system (such as allergies) to metals contained in the alloy or localized paraesthesia (such as taste disturbances or irritation of the oral mucosa) cannot be completely ruled out as a matter of principle. Systemic side effects caused by metals contained in the alloy have been reported in isolated cases. Should you hear or receive information about any adverse effects – even when doubtful – we would like to request notification.

Transport and storage

Protect all workpieces from shock and impact during transport and storage.

Technical specifications

Melting range: 1,050–1,160 °C • Coefficient of thermal expansion: 14.2 µm/m · K (25–500 °C), 14.4 µm/m · K (25–600 °C) • Vickers hardness: HV5 220 (b), 220 (a) • 0.2 % yield strength: N/mm² 630 (b), 640 (a) • Tensile strength: N/mm² 530 (b), 530 (a) • Elongation at fracture: % 9 (b), 8 (a) • Density: 19.0 g/cm³ • Key = (b) after firing, (a) hardened.

Composition (in mass %)

Type: Extra hard • Shade: Yellow • Composition (in mass %): Au 81.6, Pt 16.0, Zn 1.4, In 0.5, Ir 0.1, Nb 0.4 (total: 100 %).

Manual finishing

Adjustments of fit and framework finishing: We recommend the use of e.g. cross-cut tungsten carbide cutters (do not use any diamond instruments).

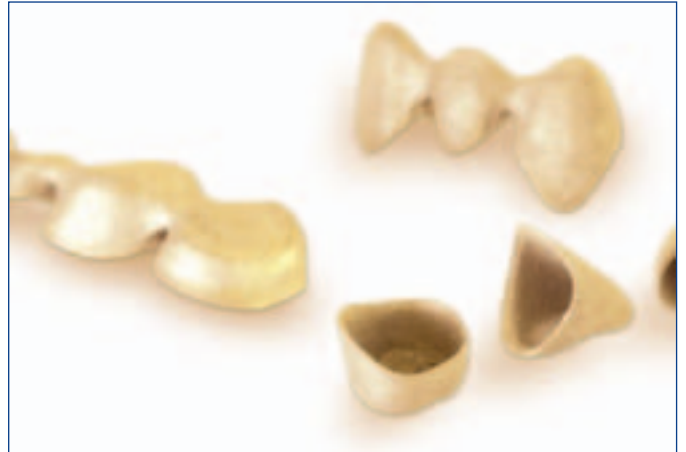
Note: Sandblasting the metal frameworks will improve their quality.

- Use only pure abrasive.
- Use only abrasive of the recommended granularity.
- Apply the abrasive at the recommended pressure.
- Apply the abrasive from the recommended angle.
- Inspect the sandblasting nozzle from time to time because it may be enlarged by the abrasive passing through it, reducing the sandblasting speed and pressure.

Veneering

Prior to veneering BiOcclus® Kiss by Compartis® with dental ceramics, the surface of the framework must be sandblasted (aluminium oxide, 110 µm, 2 bar), oxidized (900 °C, 5 minutes, atmospheric pressure), pickled in Neacid® and cleaned with a steam cleaner

- DeguDent dental ceramics such as Duceram® Plus, Duceram® Kiss, Duceram® love are suitable for veneering. Make sure to follow the applicable Instructions for Use
- After ceramic firing or after the final heat treatment is carried out, the oxides should be carefully removed by pickling (Neacid®) or by mechanical removal.



Reuse

The product is not reusable.

Soldering/laser welding

For BiOcclus® Kiss by Compartis® we recommend Degudent solders G1 (1,030 °C) – before firing and DG 750 solder (750 °C) – after firing

- Fluxing agent DS1 or T
- The alloy may be laser-welded to alloys of the same type.

Annealing

Maximum hardness is attained through ceramic firing.

Instructions for Use

Degunorm® by Compartis

Product description

Degunorm® by Compartis® are custom high-gold ceramic-bonding frameworks for dental crown and bridge restorations fabricated to your digital design specifications such as anatomic form, framework wall thickness and connector diameter and cementing gap.

Indications

Primary telescope crowns • Crowns • Multi-unit (up to 6 units) anterior or posterior bridges.

Contraindications

For dental ceramic veneers: Bruxism or recalcitrant parafunctional habits. Do not use in known sensitivity to one or several metals contained in the alloy.

Interactions

Avoid occlusal and proximal contacts of different alloy types.

Safety warnings

Avoid inhaling dust and vapours while in contact with this product

- When using, do not eat or drink
- Do not swallow the product.

Precautions

Use suction and suitable mouth/face protection during grinding.

- Please note the melting interval when setting the firing temperature for dental ceramics and when soldering. Check and calibrate your ceramic furnace for this temperature range.
- The safety and warning notes listed here describe how to use the product in a safe and risk-free manner. Notify the dentist in charge of all factors described above if you use this medical product for a custom design and make sure to comply with the pertinent Material Safety Data Sheets (MSDS).

Adverse effects

If properly processed and used, adverse effects of this medical product are highly unlikely. However, reactions of the immune system (such as allergies) to metals contained in the alloy or localized paraesthesia (such as taste disturbances or irritation of the oral mucosa) cannot be completely ruled out as a matter of principle. Systemic side effects caused by metals contained in the alloy have been reported in isolated cases. Should you hear or receive information about any adverse effects – even when doubtful – we would like to request notification.

Transport and storage

Protect all workpieces from shock and impact during transport and storage.

Technical specifications

Melting range: 900–990 °C • Coefficient of thermal expansion: 16.7 $\mu\text{m}/\text{m} \cdot \text{K}$ (25–500 °C), 16.8 $\mu\text{m}/\text{m} \cdot \text{K}$ (25–600 °C)

- Vickers hardness: HV5 200 (b), 230 (a) • 0.2% yield strength: N/mm² 480 (b), 500 (a) • Tensile strength: 630 (b), 650 (a)
- Elongation at fracture: % 12 (b), 6 (a) • Density: 16.7 g/cm³
- Key = (b) after firing, (a) hardened.

Composition (in mass %)

Type: Extra hard • Shade: Yellow • Composition (in mass %): Au 73.8, Pt 9.0, Ag 9.2, Cu 4.4, Zn 2.0, In 1.5, Ir 0.1 (total: 100 %)

Manual finishing

Adjustments of fit and framework finishing: We recommend the use of e.g. cross-cut tungsten carbide cutters (do not use any diamond instruments).

Note: Sandblasting the metal frameworks will improve their quality.

- Use only pure abrasive.
- Use only abrasive of the recommended granularity.
- Apply the abrasive at the recommended pressure.
- Apply the abrasive from the recommended angle.
- Inspect the sandblasting nozzle from time to time because it may be enlarged by the abrasive passing through it, reducing the sandblasting speed and pressure.

Veneering

Prior to the veneering of Degunorm® by Compartis®, with dental ceramics, the surface of the framework must be sandblasted (aluminium oxide, 110 µm, 2 bar), oxidized (780 °C, 5 minutes, vacuum), pickled in Neacid® and finally cleaned with a steam cleaner • DeguDent dental ceramics such as Duceragold® Kiss are suitable for veneering. Make sure to follow the applicable Instructions for Use • After ceramic firing or after the final heat treatment is carried out, the oxides should be carefully removed by pickling (Neacid®) or by mechanical removal.



Reuse

The product is not reusable.

Soldering/laser welding

For Degunorm® by Compartis® we recommend Degudent® solders Degunorm® 880 (880 °C) – before firing and Degunorm® 700 (700 °C) – after firing • Fluxing agent DS1 or T • The alloy may be laser-welded to alloys of the same type.

Annealing

15 minutes at 450 °C.

Instructions for Use

CoCr by Compartis

Product description

CoCr by Compartis® are custom-made copings and bridge frameworks to be veneered in ceramics by a dental technician. CoCr by Compartis® are custom products made of a special CoCr alloy.

Indications

Primary telescope crowns • Crowns • Multi-unit bridges with up to 16 units • Bars*.

* designed with 3Shape DentalDesigner

Contraindications

For dental ceramic veneers: Bruxism or recalcitrant parafunctional habits. Do not use in known sensitivity to one or several metals contained in the alloy.

Interactions

Avoid occlusal and proximal contacts of different alloy types.

Safety warnings

Avoid inhaling dust and vapours while in contact with this product

- When using, do not eat or drink
- Do not swallow the product.

Precautions

Use suction and suitable mouth/face protection during grinding.

- Please note the melting interval when setting the firing temperature for dental ceramics and when soldering. Check and calibrate your ceramic furnace for this temperature range.
- The safety and warning notes listed here describe how to use the product in a safe and risk-free manner. Notify the dentist in charge of all factors described above if you use this medical product for a custom design and make sure to comply with the pertinent Material Safety Data Sheets (MSDS).

Adverse effects

If properly processed and used, adverse effects of this medical product are highly unlikely. However, reactions of the immune system (such as allergies) to metals contained in the alloy or localized paraesthesia (such as taste disturbances or irritation of the oral mucosa) cannot be completely ruled out as a matter of principle. Systemic side effects caused by metals contained in the alloy have been reported in isolated cases. Should you hear or receive information about any adverse effects – even when doubtful – we would like to request notification.

Transport and storage

Protect all workpieces from shock and impact during transport and storage.

Technical specifications

Vickers hardness: 488/485 HV10 • 0.2 % yield strength: 938/1024 MPa • Tensile strength: 1337/1409 MPa • Key = First value as delivered/second value after firing • Modulus of elasticity: 210 GPa • Elongation at fracture: 3/3 % • Density 9.1 g/cm³ • Coefficient of thermal expansion: 14.3 µm/m · K (25–500 °C), 14.6 µm/m · K (25–500 °C).

Composition (in mass %)

55.2 % Co, 18.4 % Cr, 18.4 % W, 6.0 % Fe, 2.0 % Al (total: 100 %).

Manual finishing

Compartis CoCr frameworks are delivered sandblasted on the inside and outside (250 µm precious corundum, 3 bar).

1. In the case of a pronounced chamfer preparation, a slightly elongated crown may result in a narrow collar located above the preparation margin. This collar must be reduced before attempting to fit the framework on the cast.

2. The internal surfaces of the frameworks are not machined by us. As in the chamfer, small CoCr “beads” may adhere to these surfaces. Eliminate these premature contacts one by one until the framework has reached its final position on the die(s).

3. The crown margin is slightly overcontoured and should be adjusted and given a tapered edge using a cutter for non-precious metals or a suitable polishing stone.

Note: CoCr should be finished exclusively with cross-cut tungsten carbide cutters suitable for use with CoCr. Keep the pressure on the framework material to a minimum and work only in one direction.

4. The framework is fabricated exactly as you designed it with your software. Some finishing may be required near the connectors or on the basal surfaces of the pontics.

5. Sandblast the outside of the framework with aluminium oxide (250 μm , 3 bar) and then clean it using a steam cleaner.

Note: Sandblasting the metal frameworks will improve their quality.

- Use only pure abrasive.
- Use only abrasive of the recommended granularity.
- Apply the abrasive at the recommended pressure.
- Apply the abrasive from the recommended angle.
- Inspect the sandblasting nozzle from time to time because it may be enlarged by the abrasive passing through it, reducing the sandblasting speed and pressure.

6. Because the Compartis® CoCr frameworks are heat-treated during fabrication, no oxide firing is required before ceramic veneering.

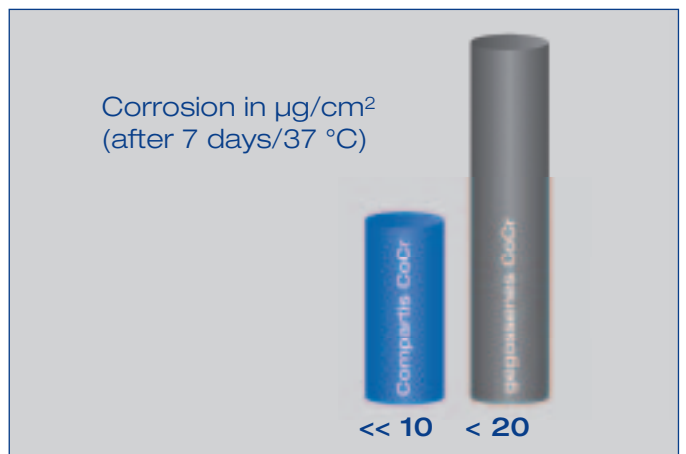
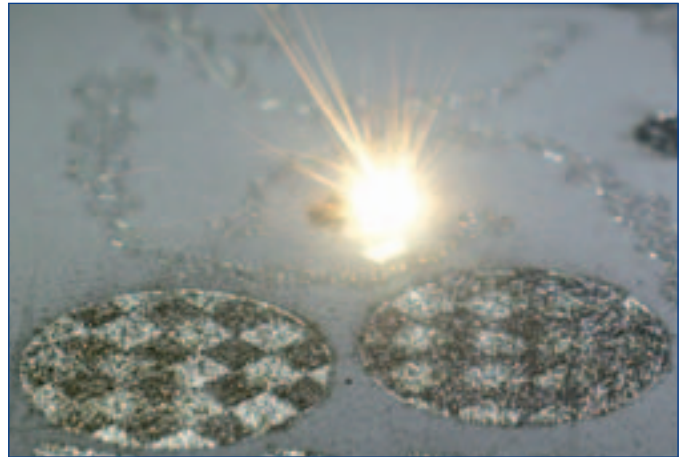
Veneering

As you proceed to veneering the framework with a ceramic veneering material, make sure to follow the Instructions for Use for the veneering material you prefer, which must be appropriate for the framework material.

Important note: When veneering CoCr by Compartis® frameworks with Duceram® Kiss, apply a thin but covering layer of NE Bonder and fire at 980 °C.

Reuse

The product is not reusable.



Instructions for Use

Ti by Compartis

Product description

Ti by Compartis® are custom-made copings and bridge frameworks to be veneered in ceramics by a dental technician. Ti by Compartis® are individually produced from Grade 4 titanium.

Indications

Abutments* • Crowns • Multi-unit bridges with up to 6 units (with two pontics between abutment crowns)

* See separate Custom abutments by Compartis Instructions for Use

Contraindications

For dental ceramic veneers: Bruxism or recalcitrant parafunctional habits. Do not use in known sensitivity to one or several metals contained in the alloy.

Interactions

Avoid occlusal and proximal contacts of different alloy types.

Safety warnings

Avoid inhaling dust and vapours while in contact with this product

- When using, do not eat or drink
- Do not swallow the product.

Precautions

Use suction and suitable mouth/face protection during grinding.

- Please note the melting interval when setting the firing temperature for dental ceramics and when soldering. Check and calibrate your ceramic furnace for this temperature range.
- The safety and warning notes listed here describe how to use the product in a safe and risk-free manner. Notify the dentist in charge of all factors described above if you use this medical product for a custom design and make sure to comply with the pertinent Material Safety Data Sheets (MSDS).

Adverse effects

If properly processed and used, adverse effects of this medical product are highly unlikely. However, reactions of the immune system (such as allergies) to metals contained in the alloy or localized paraesthesia (such as taste disturbances or irritation of the oral mucosa) cannot be completely ruled out as a matter of principle. Systemic side effects caused by metals contained in the alloy have been reported in isolated cases. Should you hear or receive information about any adverse effects – even when doubtful – we would like to request notification.

Transport and storage

Protect all workpieces from shock and impact during transport and storage.

Technical specifications

Vickers hardness: 250 HV10 • 0.2 % yield strength: 520 MPa

- Tensile strength: 610 MPa
- Elongation at fracture: 10 %
- Density: 4.5 g/cm³
- Coefficient of thermal expansion: 9.5 µm/m · K (25–500 °C), 9.6 µm/m · K (25–600 °C).

Composition (in mass %)

Titanium and < 1 % N, < 1 % C, < 1 % H, < 1 % Fe, < 1 % O₂ (total 100 %, grade 4 titanium).

Manual finishing

1. Sandblast the inside of the crown framework with aluminium oxide (50 µm, 2 bar, 45° angle).

Note: Sandblasting of excessive pressure may widen the crown framework and is therefore contraindicated!

2. Eliminate premature contacts one by one until the framework has reached its final position on the die(s).

3. Adapt the framework margins exactly to the preparation margins.

Note: Titanium should be finished exclusively with cross-cut tungsten carbide cutters suitable for use with titanium. Keep the pressure on the framework material to a minimum and work only in one direction.

4. Sandblast the outside of the framework with aluminum oxide (max. 150 µm, 2 bar) and then clean it using a steam cleaner.

5. Before veneering with dental ceramics, allow the framework to rest for about 15 minutes to allow the titanium surface to “passivise”.



Note: Sandblasting the metal frameworks will improve their quality.

- Use only pure abrasive.
- Use only abrasive of the recommended granularity.
- Apply the abrasive at the recommended pressure.
- Apply the abrasive from the recommended angle.
- Inspect the sandblasting nozzle from time to time because it may be enlarged by the abrasive passing through it, reducing the sandblasting speed and pressure.

Veneering

As you proceed to veneering the framework with a ceramic veneering material, make sure to follow the Instruction for Use of the veneering material you prefer, which must be appropriate for the framework material.

Reuse

The product is not reusable.