

# SKY fast & fixed manual

Immediate restoration - transversally and occlusally screwed bridges



## Surgical and prosthetic protocol

4th edition





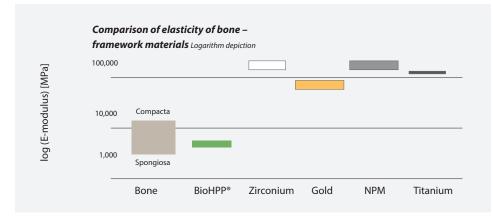
### bredent group implant treatments with bionic high-performance polymers

SKYonics covers tissue-related implant management, implant prosthetics with bionic high-performance polymers as well as implant treatments for immediate restoration.

The SKY® implant family forms a basis with high primary stability for cross-disciplinary implant treatments that make optimal use of local bone. They are bonded using high-performance polymers such as BioHPP® and HIPC. This allows ground-breaking restorations that provide patients with a natural-looking and physiological framework, as BioHPP® possesses a similar degree of elasticity to natural bone.

With the aesthetic and functional visio.lign® system, the bredent group is able to offer a host of possibilities for physiological veneering that demonstrates optimal bonding with all framework and veneer materials. These elements underpin the successful application of a host of immediate restoration treatments for cases ranging from single and multiple tooth loss up to total edentulism.

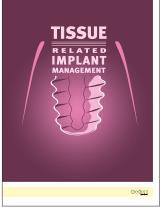
Today, the bredent group is the world leader in combining implantology and bionic prosthesis materials. Thanks to its in-house development and production, the bredent group is a pioneering innovator in optimising implant prosthetics using bionic high-performance polymers.



The bredent group is opening up new avenues for providing patients with even more natural-looking restorations. Improved implant prosthesis solutions from one single source in the interest of patients and our partners that is the bredent group.



REF 009912GB



**SKYonics** 

REF 009913GB

### Leading in immediate restorations, powered by physiological prosthetics

The bredent group would like to thank the following for the images and support, without which such a comprehensive and practical manual could not have been possible:

Dental Practice, Drs. Georg Bayer, Frank and Steffen Kistler, Alexandra Elbertzhagen, Dr. Jörg Neugebauer and DT Stephan Adler, Landsberg am Lech, Germany / Dr. Tilo Bartels, MDT Claus Küchler, Munich, Germany / Dr. Burzin Khan, MT Danesh Vazifdar, Mumbai, India / Dr. Praful Bali, Delhi, India / Dr. Nigam Buch, Rajkot, India / EO Dent, Dr. Valentin Pavlov, Sofia, Bulgaria / Dental Design Erlangen, MDT Philipp von der Osten and edel&weiss MDT Daniel Kirndörfer, Germany / Dentamedic, Dr. Harald Streit, David Streit, Bad Neustadt, Germany / Dentalklinik Dr. Ryssel and Partner, Crailsheim, Germany / Dentaprime Klinik Dr. Ivan Peev, Varna, Bulgaria / Dr. Dilip Deshpande, Mumbai, India / Dr. Michail Drobiazgo, Simferopol, Crimea / Dr. Giovanni Ghirlanda, Rome, Italy / Dr. Ionut Leahu, Bucharest, Romania / Dr. Eugenia Michailidou DDS, MS, Athens, Greece/ Praxis am Moritzplatz Dr. Lara Müller; Labor Miller & Schmuck, MDT Miller, Augsburg, Germany / Implant Consultant, Dr. Florian Obadan, Alexandria, Romania/ Prof. Hakan Özyuvaci, Istanbul, Turkey / OpusDC Dental Clinic, Drs. Margit and Michael Weiss, Axel Schröder Ulm, Germany / MDT Mario Parra, Alicante, Spain / Dr. Guillaume Reys, Sélestat, France / DT Pascal Flajolet, Molsheim, France / Dr. Robert Schneider, Neula, Germany / Dr. Wilhelm Spurzem, Bensheim; MDT Oliver Heinzmann, Heppenheim, Germany / Dr. Zafer Kazak, Istanbul, Turkey

Disclaimers

The product must only be used by dentists, dental technicians and specially trained experts. Only original tools and parts are to be used for processing. The relevant instructions for use are to observed.

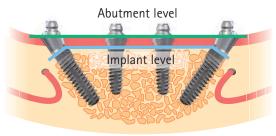






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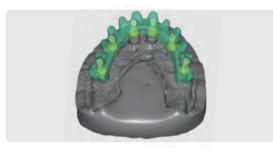
Surgical protocol















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## Edentulous patients and those becoming edentulous



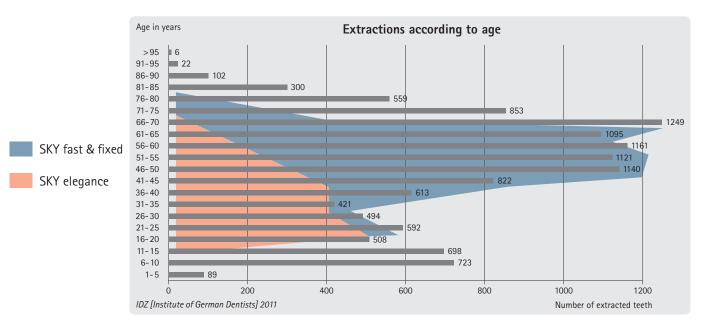


#### What fears and wishes do patients have?

- They still feel young and fit
- They are in the middle of their lives and are active
- A well-kept appearance and healthy eating are of great importance to them
- Removable prostheses are not accepted, and neither is a temporary restoration
- Palate-free restoration
- Extensive surgical procedures are frequently refused
- Fear of complications and long healing times

#### What is the patients' situation?

The patient group in the age range of 40 to 60, i.e. those who are middle aged, is frequently affected by moderate to severe periodontal diseases. Many patients have severely reduced residual dentition. The 50 plus generation in Germany on average has only 4 or 5 teeth per jaw and are edentulous at 64.





#### Why immediate loading?

The principle of the interlocked immediate restoration is not new. It was successfully introduced into implantology by Dr. P. Ledermann, Bern, Switzerland in the 1980s. Four interforaminally fitted implants were interlocked with a bar immediately after insertion and restored using a removable prosthesis. Dr. Malo, Lisbon (Portugal), developed this concept further. The emergence profile in the region of the second premolars is shifted due to implants fitted at an angle. This enables a fixed screwed provisional restoration on a broad support base. The introduction of osseointegrated hip implants changed treatment in orthopaedics to immediate loading. Physiotherapy begins immediately after the operation. The EuCC 2006 writes in a consensus paper: The immediate loading of dental implants is well documented in patients with good peri-implantar bone quality and secure primary stability of the implant and is comparable to known data for delayed implant loading with regard to survival time.



Practical guide https://www.bdizedi.org/bdiz/web.nsf/ id/pa\_en\_startseite.html

This QR code takes you straight to the practice quidelines

## One abutment treatment – train the bone, save the tissue

Publications show positive behaviour of the soft tissue when avoiding frequent changing of the abutment. During the SKY fast & fixed treatment, the permanent abutments are screwed on immediately after implant insertion and

#### Immediate restoration - the patient's preferred option

Testimonial from the Dental Practice in Landsberg am Lech, Germany:

SKY fast & fixed has been a successful treatment option for us for over 10 years for the large group of patients who will soon become edentulous. This group wants a short do not need to be removed again. All additional treatment steps are carried out on the abutment shoulder at gingival level; this facilitates aftercare.

treatment time and a fixed temporary restoration. Almost all of our SKY fast & fixed patients would recommend this treatment thanks to their own positive experience.



# The solution



#### A patient-oriented treatment

- Rapid usually after only one procedure implant-supported and fixed bridge
- Reduced number of implants
- No extensive surgical procedures such as augmentations
- Affordable reigniting your patients' confidence at a fair price
- Patients talk to their family and relatives about their experience



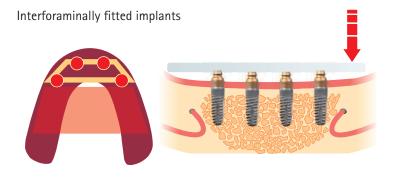
# The advantages

- Standardised work steps make the work easier
- Reduction and prevention of errors and complications
- Short treatment times
- Saving of time and costs
- Increase in turnover
- Satisfied patients the best advertisement for the practice and laboratory

**SKY** fast & fixed



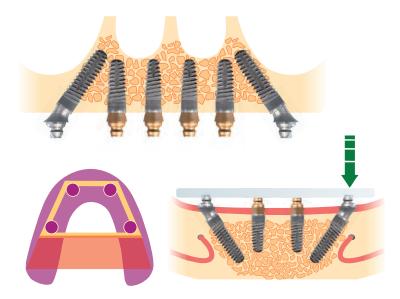
### How does SKY fast & fixed work?



Interforaminal fitting of four implants creates a short supporting polygon with long extensions which may lead to unfavourable leverage and application of forces in the implant. The intended axial load is not achieved.

### **Tissue Related Implant Management**

Implants fitted at an angle according to SKY fast & fixed



The emergence profile of the implants is shifted in a posterior direction due to implants fitted at an angle and an extensive supporting polygon is therefore created. Extensions are shortened. Applying force to implants that are fitted at an angle is reportedly more beneficial than vertically fitted implants in restorations with cantilevers.

By using this tried-and-tested concept:

- the local bone is used to an optimal extent
- critically anatomical regions are protected
- the number of implants is reduced
- a fixed bridge is enabled as an immediate restoration

The SKY fast & fixed immediate restoration is based on over 10 years of scientific and clinical experience, involving a significant number of patients.





#### **Excellent primary stability**

- Conical cylindrical implant shape
- Double thread
- Self-tapping compression thread
- Surgical protocol tailored to bone quality

#### snap on drill stop

Rapid osseointegration thanks to *osseo-connect*-surface (*ocs*)®

SKYplanX - Guided implantology possible

#### Safe interface

- 3.5 mm tube in tube
- Torx <sup>®</sup> rotation lock
- Six positions
- Only one prosthetic platform for SKY fast & fixed and uni.cone

#### SKY fast & fixed

- Platform switch for blueSKY and SKYclassic
- Abutments with anatomical design

### Two shoulder diameters

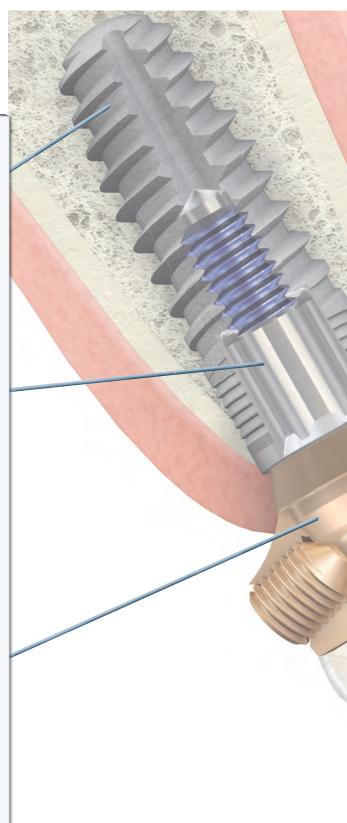
- SKY uni.cone 4.5 mm
- SKY fast & fixed 5.65 mm

#### Smart connections using one abutment

- Occlusal screwing
- Transverse screwing

#### All prosthetic options

- Bridge and bar structures
- Conventional or CAD/CAM manufacturing
- All framework and veneer materials can be used









### Cement-free!

No risk of "cementitis".

#### **Tension-free structures**

Prosthetic copings are bonded into the framework in accordance with the Weigl protocol

#### Immediate temporary bridge

- Conventional using visio.lign veneers
- Bridge kit available
- visio.lign veneers + top.lign professional
- Wearing time not limited

#### Milled temporary bridge

- Scanned using 3D planning or after the operation
- Milled from breCAM.multiCOM

BioHPP – permanent bionic framework material

CAD/CAM – various blanks available Conventional – pressed in the *for*2press system

#### visio.lign aesthetic and functional system

- Veneers and full dentures
- Highly aesthetic results
- Long-term stability
- Easy to modify or repair
- Suitable for all framework materials

#### 2-in-1 technique

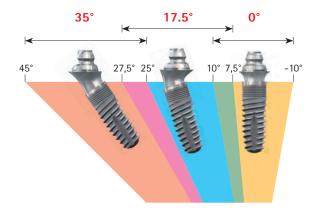
- Milled framework made from BioHPP
- Milled veneering made from HIPC
- Combined with the visio.lign system







Abutment level



SKY fast & fixed and SKY uni.cone are straight and angled abutments with occlusally or transversally screwed prosthetic copings for primary interlocked bar and bridge structures. Abutments with a stable conical bonding to the prosthetic copings are the foundation.

SKY fast & fixed abutments enable angulation compensation of up to 35°.

#### SKY fast & fixed / SKY uni.cone

- One-time treatment no change of abutment required
- Two shoulder diameters:
  - SKY fast & fixed: 5.65 mm
  - SKY uni.cone: 4.5 mm
- Two types of screwing:
- Occlusally screwed
- Transversally screwed
- Modelling at abutment level
  - Abutment does not need to be removed

#### Implant level

The abutments are fixed securely in six positions using 3.5 mm long  $Torx^{(\!\!R\!)}$  or as a one-part abutment.

#### Abutment level

All additional prosthetic steps are carried out using the copings at abutment level.

#### Divergence compensation using an outer cone

By using a 17.5° outer cone for SKY fast & fixed abutments, compensation with divergent implants is possible. Maximum compensation here is 35°, however we recommend not exceeding the following angulations for biomechanical reasons.



### Secure, easy handling





SKY Torx<sup>®</sup> screwdriver to fix abutments

Circumferential precision groove for transverse fixation

Fixation of the abutment in the implant



Thread for occlusal screw

## Structure of the SKY fast & fixed and SKY uni.cone abutments

The work level is raised from the implant shoulder to the abutment shoulder. The following parts used are consequently no longer referred to as an abutment, but rather as copings, e.g. impression coping or prosthetic coping.

#### Minimum height of the prosthetic copings

The straight SKY fast & fixed and SKY uni.cone abutments are single pieces and are screwed directly into the implant. The angled SKY fast & fixed abutments are screwed in using SKY prosthetic screws. Occlusally screwed copings are fixed using SKY fast & fixed prosthetic screws.

#### **Occlusal screwing**

The occlusally-fixed prosthetic copings are fixed using the M 1.4 screw in the thread for the abutments under the screw-driver.

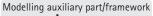


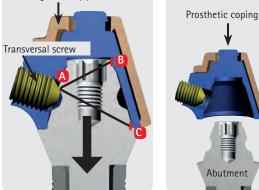




In order to make working with the SKY fast & fixed system as simple and secure as possible, all important components are included in the packaging sets. Such as:

- Angled abutments with insertion aid and prosthetic screw for simple positioning, alignment and fixation
- All laboratory analogues are supplied with laboratory screws for working in the laboratory. The blue prosthetic screw does not become dirty or damaged
- Occlusally screwed titanium prosthetic coping
  - with silicone tubing as a placeholder,
  - with a 1.4 screw to fix the prosthetic coping
  - with a locking pin to protect against plastic shrinkage during insertion





#### Transverse screwing

The prosthetic coping is fixed using a triple point attachment with the transverse screw (A) and the short cylindrical surfaces (B and C). Tilting is therefore prevented. Thanks to the slightly inclined position of the transverse screw, the prosthetic coping is pressed on the abutment platform and gap formation is avoided when it is tightened.

#### Simple application

The transverse screw always remains screwed into the prosthetic coping. This enables secure and rapid insertion and removal of the restoration. The screw is tightened or loosened with just a few turns.

#### Note:

By using the prosthetic copings, tension-free bonding of the structure is possible in accordance with the Weigl protocol. When working with zirconium and polymer frameworks, bonding of the framework to occlusally or transversally screwed SKY fast & fixed titanium prosthetic copings is recommended. The seat of the screw in titanium ensures a durable fixed connection.







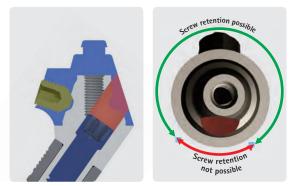
#### **Application options**

Aesthetic impairments can occur in the case of thin gingiva in the maxilla when using angled abutments.

When using straight abutments together with occlusally screwed prosthetic copings, unfavourable positions of the veneering can occur as a result of the screw channel.

Transverse screwing enables straight abutments with minimal abutment height to be used. There are no screw channels to impair the aesthetic design or restoration.





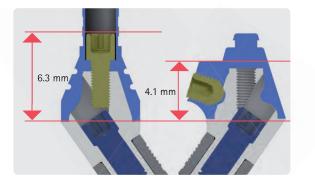
#### Positioning of the screws

In the case of the straight SKY fast & fixed and SKY uni.cone abutments, free positioning of the transversal screws is possible thanks to the circumferential horizontal ridge.

The horizontal ridge on the angled SKY fast & fixed abutments are interrupted by the screw channel (predominantly vestibular). The bolt screws cannot take hold here. This information is not communicated when taking an impression as the SKY fast & fixed impression copings and analogues are not rotationally symmetrical. This information can be passed on to the laboratory using a photo or a drawing. The screw channel is not usually located in the relevant area.

#### Minimum height of the prosthetic copings

The straight SKY fast & fixed and SKY uni.cone abutments are single pieces and are screwed directly into the implant. The angled SKY fast & fixed abutments are screwed in using SKY prosthetic screws. Occlusally screwed copings are fixed using SKY fast & fixed prosthetic screws.





## SKY fast & fixed and SKY uni.cone components



#### SKY instrument kit

The surgical trays contain all instruments for fitting the implants and the prosthetic restoration.

Additional information relating to the trays and the SKY implant systems can be found in the SKY system presentation brochure REF 000 250 GB



Screwdriver Alle 0.9 for transversal screw-retention REF 310W0106

#### Available as an option for the SKY OP Tray OT21

Transversal screws are provided with an Imbus 0.9. In the Torque Wrench Pro, it is used together with a SKY Connector.



SKY fast & fixed Angulation aid set 35° REF SKYFFS35

#### SKY fast & fixed angulation aid

The angulation aid consists of a parallel indicator and a movable component with which the distance and the 35° angle can be estimated. The angulation aid is placed in the pilot hole and facilitates orientation when preparing the angled cavities.

#### SKY uni.cone



SKY fast & fixed



Gingiva height in mm 🔼



12

SKYLPS22

SKY Laboratory screw 2.2, grey

10

9.0

M 1,8

2.2

Ti\*

V

12

14

### SKY fast & fixed - components

REF

Description piece

Thread

Material

Head Ø / mm

Screw length / mm

SKY prosthetic key





REF	SKYFn173	SKYFn175	SKYFn354	SKYFn355
Description	SKY fast & fixed	SKY fast & fixed	SKY fast & fixed	SKY fast & fixed
	abutment NP 17,5°	abutment NP 17,5°	abutment NP 35°	abutment NP 35°
Shoulder height / mm	3.0	5.0	4.0	5.0
piece	1 set	1 set	1 set	1 set
Gingiva height / mm	2.0	3.6	1.0	1.8
Angulation	17.5°	17.5°	35°	35°
Abutment height / mm	3.6	3.6	3.6	3.6
Shoulder Ø / mm	5.65	5.65	5.65	5.65
Insertion aid	incl.	incl.	incl.	incl.
Material	Ti*	Ti*	Ti*	Ti*
2.2 screw	incl.	incl.	incl.	incl.
SKY prosthetic key	V	V	V	V
Torque/Ncm	25	25	25	25
Platform	narrow	narrow	narrow	narrow
narrowSKY	V	V		
blueSKY / SKY classic	V	V	V	V
			4.00	

SKY-PS22

SKY screw 2.2

6

9.0

M 1,8

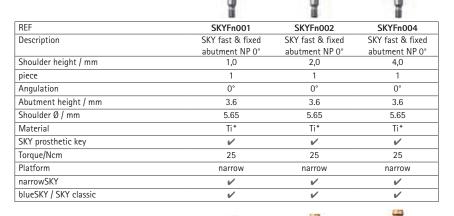
2.2

Ti\*

V

14









Ti\*= Grade 4 KV titanium



### SKY fast & fixed - components





Construction height



SKYO	<u></u>	T	T	T
REF	SKYFFPKT	SKYUCPKT	SKYFFPKC	SKYUCPKC
Description	SKY fast & fixed prosthetic coping titanium	SKY uni.cone prosthetic coping titanium	SKY fast & fixed prosthetic coping CAD/CAM	SKY uni.cone prosthetic coping CAD/CAM
piece	1	1	1	1
Construction height / mm	12.4	12.4	12.4	12.4
Angulation	0°	0°	0°	0°
Shoulder Ø / mm	5.65	4.5	5.65	4.5
Silicone tubing	incl.	incl.	-	-
Locking pin	incl.	incl.	-	-
Material	Ti*	Ti*	Ti*	Ti*
Screw	incl.	incl.	incl.	incl.
SKY prosthetic key	V	V	V	V
Torque/Ncm	18	18	18	18







			All Provide All Pr		and the second se
REF	SKYFFPKK	SKYUCPKK	SKYFFPKH	SKYFTPKS	SKYUCPKS
Description	SKY fast & fixed	SKY uni.cone	SKY fast & fixed	SKY fast & fixed	SKY uni.cone
	prosthetic coping	prosthetic coping	prosthetic coping	prosthetic coping	prosthetic coping
	plastic	plastic	cast-on	transversal	transversal
piece	1	1	1	1	1
Construction height / mm	12.4	12.4	12.0	6.1	5.1
Angulation	0°	0°	0°	0°	0°
Shoulder Ø / mm	5,65	4,5	5,65	5,65	4,5
Modelling cap	-	-	incl.	incl.	incl.
Material	PMMA	PMMA	Pt 90%, Ir 10 %	Ti*	Ti*
Melting range	-	-	1770 - 1800 °C	-	-
CTE	-	-	9 10 <sup>-6</sup> K <sup>-1</sup>	-	-
Weight	-	-	0,59 g	-	-
Sleeve material	-	-	PMMA	PS	PS
Screw	incl.	incl.	incl.	incl.	incl.
SKY prosthetic key	v	<ul> <li>✓</li> </ul>	v	-	-
Inbus 0.9	-	-	-	V	v
Torque/Ncm	18	18	18	18	18



Ø

	Y	Y	U
REF	SKYFFSPK	SKYFFLPK	SKYUFTS9
Description	SKY fast & fixed / SKY uni.cone M 1.4 screw	SKY fast & fixed / SKY uni.cone lab screw M 1.4	SKY fast & fixed / SKY uni.cone transversal screw
piece	6	10	6
Screw length / mm	5.3	5.3	2.5
Thread	M 1.4	M 1.4	M 2.0
Head Ø / mm	2.1	2.1	2.1
Material	Grade 5 titanium	Grade 5 titanium	Grade 5 titanium
SKY prosthetic key	V	V	-
Inbus 0.9	-		V

Ti\*= Grade 4 KV titanium











	B	R		
REF	SKYFTSNP	SKYUCSNP	SKYFFREG	SKYUCREG
Description	SKY fast & fixed	SKY fast & fixed	SKY fast & fixed	SKY fast & fixed
	snap coping	snap coping	bite registration	bite registration
piece	10	10	10	10
Construction height / mm	8	8	5	5
Angulation	0°	0°	0°	0°
Shoulder Ø / mm	5.65	4.5	5.65	4.5
Material	POM	POM	POM	POM





	$\overline{\Delta}$	Т	<b></b>	
REF	SKYFFAGK	SKYUCAGK	SKYFFAOL	SKYUCAOL
Description	SKY fast & fixed	SKY uni.cone	SKY fast & fixed	SKY uni.cone
	modelling	modelling	modelling	modelling
	closed tray	closed tray	open tray	open tray
piece	1	1	1	1
Construction height / mm	6.1	6.1	17.5	17.5
Angulation	0°	0°	0°	0°
Shoulder Ø / mm	5.65	4.5	5.65	4.5
Material	Ti*	Ti*	Ti*	Ti*
Screw	incl.	incl.	incl.	incl.
SKY prosthetic key	V	<ul> <li>✓</li> </ul>	V	V



	<b>X</b>	Y	Ť	<b>į</b> ,
REF	SKYFSCIE	SKYUSCIE	SKYFFTLA	SKYUCTLA
Description	SKY fast & fixed scan coping intraoral / extraoral	SKY uni.cone scan coping intraoral (extraoral)	SKY fast & fixed laboratory analogue	SKY uni.cone laboratory analogue
piece	1	1	1	1
Construction height / mm	12.4	12.4	14	14
Angulation	0°	0°	0°	0°
Shoulder Ø / mm	5.65	4.5	5.65	4,5
Material	PEEK	PEEK	Stainless steel	Ti*
Screw	incl.	incl.	incl.	incl.
SKY prosthetic key	V	V	-	-

Ti\*= Grade 4 KV titanium

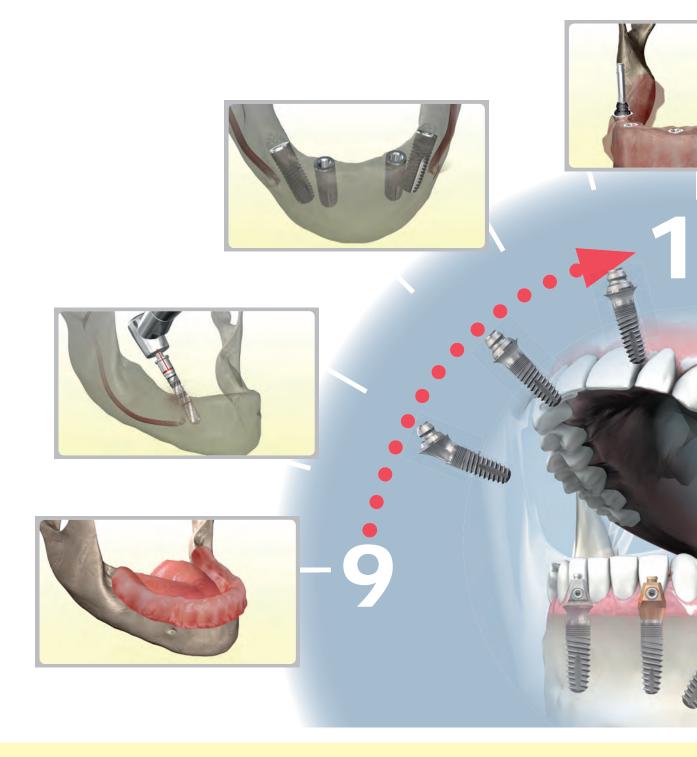


## Developed by practitioners

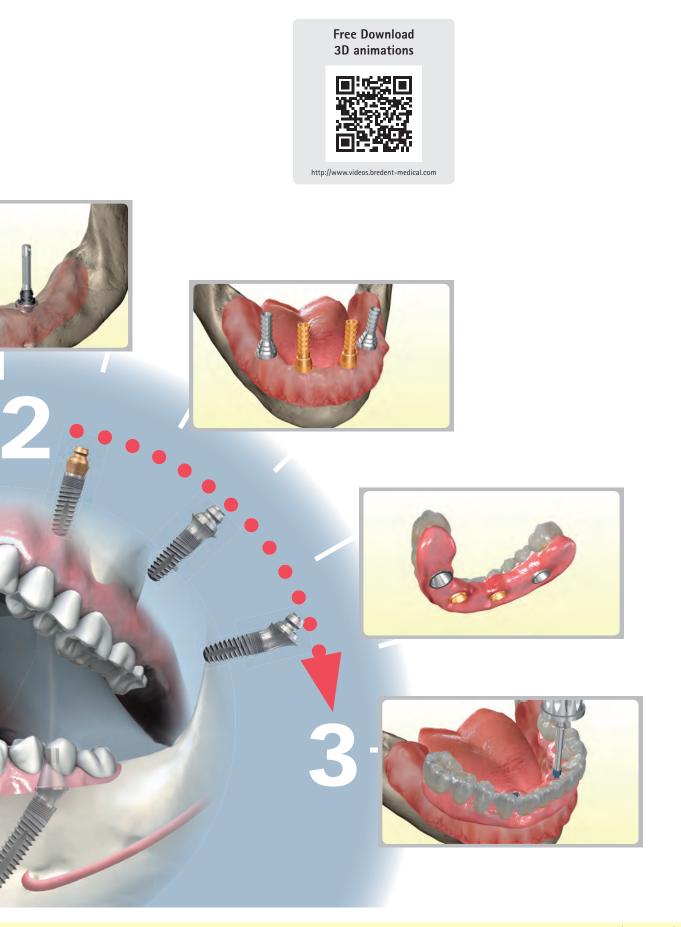
The clinical experiences of Drs. Georg Bayer, Frank and Steffen Kistler, Dr. Jörg Neugebauer and the dental technical expertise of dental technician Stefan Adler were incorporated when developing this innovative treatment concept. SKY fast & fixed treatment enables extraction, implantation and immediate dental technical restoration with a fixed prosthesis to be carried out in just one day. Major augmentation measures are not required.



Dr. Jörg Neugebauer, Dr. Frank Kistler, Dr. Steffen Kistler, Dr. Georg Bayer, Stephan Adler, Dental Practice Landsberg am Lech.









## Template-guided surgery



#### 3D planning

The implant position can be optimally designed and planned to aesthetic and prosthetic specifications in implant planning software such as SKYplanX, taking into account the amount of bone available.

The drilling template can be pressed or milled.



The required abutments can be selected on the basis of the implant planning and the temporary restoration can be prefabricated.







HELBO TheraLite Laser®



Infection management is also important, particularly during simultaneous removal of the last periodontally damaged abutment teeth. The antimicrobial photodynamic treatment according to the HELBO procedure is established for disinfection and analgesic prophylaxis after the procedure.

Four abutments of residual dentition support the drilling template and are extracted immediately after the implant bed is prepared.













Pilot drilling is carried out using templates as a guide and the additional preparation and implant insertion is carried out freehand.

#### Abutments and prosthetic copings

The angulations of the SKY fast & fixed abutments have been determined by preliminary planning. The abutments are inserted. A control image of the implants shows the correct position of the abutments.

Fitting of the temporary restoration. The straight prosthetic copings are screwed on.

The prepared bridge is positioned over the palate. The titanium prosthetic copings can be fixed with no tension using Qu-resin. After removing the excess and polishing, the temporary restoration is fitted.

Documents for 3D planning:

- coDiagnostiX for dentists REF 0005060D
- SKYplanX surgical protocol REF 0003910D
- coDiagnostiX for laboratories REF 0005040D



#### Fixed reference points (FRP)

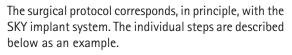
3 mini<sup>1</sup>SKY FRP implants can be inserted into the jaw bone to fix the drilling template. These implants also help to position the temporary bridge for oral fixation of the prosthetic copings.



## Surgical procedure

### **Freehand implantation**

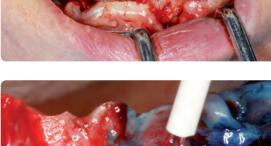




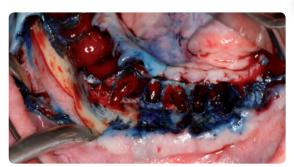
The planning is carried out in 3D format using a DVT scan. The procedure is carried out freehand.

**Initial situation:** Residual dentition not worth saving.

After extraction, inflammatory tissue is thoroughly removed and the bone is evened out.









Application of the antimicrobial photodynamic therapy according to the HELBO procedure.

Visualisation of the mandibular nerve

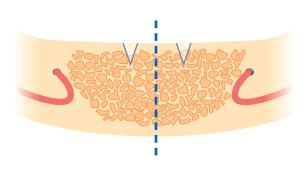






Pilot drill 800-1,000 rpm

Determination of the midline and the position of the first implant using the pilot drill.



The 2.25 mm diameter twist drill with depth markers can be used with or without depth stop for straight positions. The parallel indicators are positioned after each drilling for better orientation.

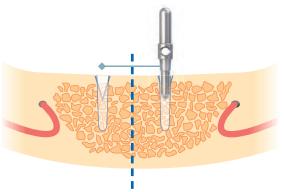




Parallel indicators



Position of the vertical implants



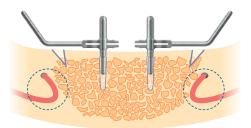


## Surgical procedure



Angulation aid

The posterior implants are fitted using almost the same intervals as in the front. The angulation aid shows an angle of 35°. It assists orientation when positioning and angling the implants.





Twist drill 1.3 800-1,000 rpm

Drilling of the implant cavity paying attention to the mandibular nerve.

To be noted when preparing the maxilla:

Orientation on the maxillary sinus

- Pilot hole based on planning and measurements
- Puncturing and probing

Taking of a control image with a gauge is recommended after pilot drilling.





Twist drill 800-1,000 rpm



Final drill for soft and

medium-hard bones

300 rpm

5

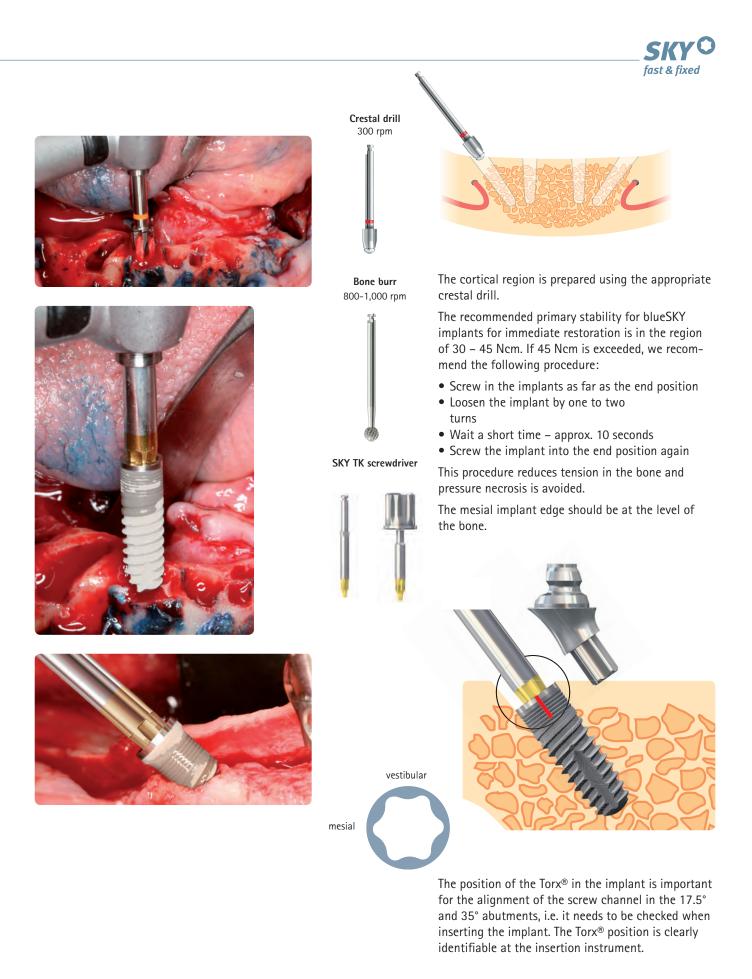
Recommendation:

Determine the depth and direction between  $25^{\circ} - 45^{\circ}$  using the 1.3 mm twist drill and take a control image.

In accordance with the surgical protocol for SKY implant systems, the cavity is then enlarged:

- 2.25 mm twist drill with short SKYDT23K and long shaft SKYDT23L
- Final drill for soft and medium-hard bones SKYD3435
- Final drill for soft and medium-hard bones SKYD3440







## Surgical procedure

### Implant and abutment selection



#### Angled implants posterior:

Use of the following implants is proven in both the maxilla and the mandible:

- blueSKY 4.0 length 12 16 mm
- blueSKY 4.5 length 12 14 mm



#### Anterior:

All blueSKY and narrowSKY implants can be used regardless of the bone width or height. Lengths of 10 and 12 mm are usually used.



#### Mandible (anterior):

In the front of the mandible, it is usually recommended that the SKY unicone abutments are used as the final restoration can also be finished in an aesthetically optimal manner due to the narrow gingiva emergence profile.



The torsion applied to the mandibular superstructure lies outside the SKY fast & fixed implant beds. The rigid primary interlocked construction is not affected by torsion during mastication.







SKY fast & fixed abutment with insertion aid





#### Inserting the abutments

An insertion aid makes inserting the angled abutments easier. At the same time, they permit the position of the abutments to be checked, which makes rapid correction possible.

Despite the six possible positions, if no parallel position is possible, adjustment of the implant using an insertion tool is recommended. The abutment is subsequently fixed using the blue standard screw.





Collisions with the bone during insertion of the angled abutment are ruled out as much as possible by a platform switch and tapered abutments.

If the abutment cannot be fitted flush to the implant, remove it again and screw in the cover screw. The cavity can now be prepared again in the crestal region without damaging the implant platform.





## Surgical procedure

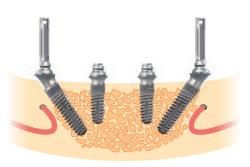
### Positioning the abutments



SKY fast & fixed abutment 0°



SKY uni.cone



The straight abutments with integrated screw are placed on the screwdriver and can therefore be inserted securely.

#### Abutment torque 25 Ncm!

SKY uni.cone abutments can also be used instead of straight SKY fast & fixed.

The corresponding SKY uni.cone components are used in the subsequent prosthetic steps!







When taking a control image after the operation, correct positioning of the abutment is to be ensured! The abutments are generally also used in the sense of "one-time abutment treatment" for the permanent restoration.







breciform D Single-use impression tray



#### Snap copings for closed modelling

For simple, quick modelling, the SKY fast & fixed or SKY uni.cone snap copings are pressed onto the abutments with a precision groove. When the impression is removed, the copings remain in the impression due to retention wings.

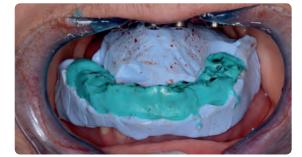
Any minor inaccuracies can be compensated for thanks to the subsequent oral bonding of the titanium prosthetic copings to the temporary restoration.

Closed impression taking with the customisable breciform D single-use impression tray is recommended. It is important for the dental technician to include the palate and tuber region in the impression.

#### Screwed copings for closed modelling



The impression copings are screwed in and can remain in the patient's mouth until the temporary bridge is inserted.







#### **Bite registration**

Bite registration is carried out over the screwed impression copings or bite registration copings. A mushbite prior to commencement of the operation is compulsory. It can be supported in the palate or in the tuber region and relined after the operation. A mushbite after articulation of the model is also helpful as a check.

SKY fast & fixed open tray



Screwed impression copings for open modelling can also be used when taking an impression for a temporary restoration. The positions of the impression copings can be determined thanks to the transparent breciform D single-use impression tray. The positions are marked and then perforated by grinding. The edge of the tray can

be customised using kneading silicone.



## Immediate restoration - Manufacture in the laboratory

### New manufacture of a temporary visio.lign restoration

Fitting of the temporary restoration is ideally carried out on the day of implant insertion or within 72 hours at the latest for immediate loading. Adjustment of a prepared restoration to the implant positions and mucosa conditions is usually time consuming. Revision of existing prostheses is also time-consuming and without knowledge of the quality of materials and processing, the risk of breakage is high and it should therefore be avoided. Experience has shown that new manufacture of a temporary restoration as described below represents the recommended method.





Dentaclean



#### Disinfection

Dentaclean impression and prosthesis disinfectant takes effect in just one minute!

#### Repositioning of the impression copings

After cleaning the impression copings, they are screwed onto the laboratory analogues and repositioned in the impression.



The analogues correspond to an implant with screwed on Abutment.

If snap copings have been used for modelling, the laboratory analogues are pressed into the snap copings and the correct position is then checked.







#### Gingiva mask

The laboratory analogues are coated with Multisil-Mask soft. This prevents chipping of the plaster around the abutments and therefore the loss of important information regarding the gingival situation.

Exakto-Rock S



Exakto-Rock S, a rapid curing, dimensionally-stable, formaldehyde-free super-hard class IV plaster, is recommended for the manufacture of the plaster model.



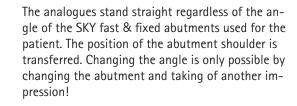




#### Creation

The models are created using a mushbite. A second mushbite over the palate and tuber region, taken before commencement of the implantation serves to check the articulation.









SKY fast & fixed titanium prosthetic coping



#### Adjustment of the prosthetic copings

The impression copings are unscrewed and replaced with prosthetic copings. The height is checked in the articulator and, if necessary, shortened using a separating disc.







Setup

The setup is produced using novo.lign veneers from the visio.lign veneer system.

In general, temporary restorations for immediate loading are manufactured without extensions.

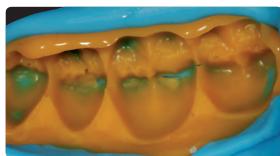


### New manufacture of a temporary, fixed restoration



Haptosil D







To ensure positioning of the restoration with no tension, only one prosthetic coping is incorporated on the model. The other three are fixed into the patient's mouth, similarly to...



In this case, the screw channel was closed using a long screw.





The 1 mm narrow thickness of novo.lign veneers enable rapid setup and provide enough space for a

A matrix is taken from the setup using Haptosil D. If a soft silicone is applied directly to the teeth in advance (visio.sil fix), the approximal spaces are well filled and the veneers hold well in the matrix with-

...bonding using galvano technology. Silicone tubes are pulled over the prosthetic copings as a place holder. These are contained in the prosthetic copings packaging.

#### Closure of the screw channel



In the case of the prosthetic coping that has to be processed, the screw channel is equipped with a locking pin. The work is prepared for completion.

Place holder

out adhesive.

Setup

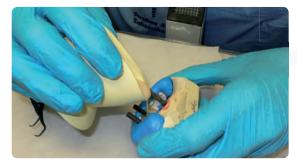
Matrix

stable bridge body.





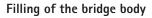






#### top.lign professional





Conditioning of novo.lign veneers

compressed air.

compromise bonding.

After they are cleaned, novo.lign veneers are blasted using 110 my blasting abrasive at 2.5 bar on the inside, and the resulting dust is removed using oil-free

Steam blasting would leave a moisture residue and

After insulating the model, the matrix is fixed to the model.

The bridge body is filled with the tooth-coloured cold polymerisate top.lign professional and polymerised in the pressure pot. Top.lign professional is approved for restorations and permanent dental prostheses and is particularly characterised by its excellent mechanical values, colour safety and simple and rapid processing.

## The perfect "third hand" to hold all models in any desired position.

The Posi-boy makes processing of cold polymerising plastics easier. The heavy metal base guarantees a fixed stand and the correct positioning, even in the pressure pot. As a result, the model is prevented from tipping over and the plastic from running out.



Posi-boy

## Immediate restoration - Manufacture in the laboratory











Matrix drill



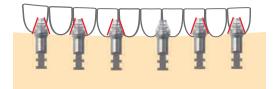
#### Completing the restoration

The silicone tubes can be simply pulled off. The screw of the coping affixed to the bridge body is loosened, and the restoration is removed.

The restoration is then processed and the occlusion is checked in the articulator.

Using the bredent matrix drill, the space for the prosthetic copings is enlarged for a passive oral position.

Preparation for the patient



The restoration is fixed using the processed prosthetic coping. Tension-free oral fixation is possible due to the free space created by the place holder.

To make application of the Qu-resin easier, additional lateral grooves are ground into the top.lign professional.

After the restoration is finished, all the parts are cleaned and remounted on the model.

Qu-resin is a rapid-curing, autopolymerising prosthetic system plastic that is available in pink or dentine. It can be used both inside and outside the mouth. Qu-resin is available individually or in a set together with Qu-connector.

Prior to polymerisation of the remaining prosthetic copings, Qu-connector is applied to top.lign breformance and subjected to light polymerisation.

Qu-resin only bonds with top.lign breformance at the sites to which Qu-connector is applied, therefore any excess can be more easily removed.

The SKYFFLPK laboratory screws are generally used for work in the laboratory. The screws contained in the prosthetic copings pack are suitable for clinical use.



# Integration practice











#### Tightening of the prosthetic copings

The impression copings and the gingiva former are exchanged for prosthetic copings. The position of the prosthetic copings that are already fixed in the restoration remain free.

### Fixing of the restoration

The restoration is attached and tightened with the integrated prosthetic coping. To position the restoration with no tension, there must be no contact between the bridge body and the prosthetic copings that are not yet fixed.

The gingiva must not be compressed in doing this.

The locking pins included in the packaging set for prosthetic copings prevent Qu-resin from flowing into the screw channel.



# Processing of the prosthetic copings with Qu-resin

Qu-resin is easier to apply thanks to the laterally ground grooves. After a brief curing period, the occlusion can be checked and the restoration removed for final polishing.

#### Polishing

Particular attention should be paid with a convex design and conscientious high-gloss polishing of the basal region for reasons of hygiene.



# Guide template and milled temporary bridge











The temporary bridge can be prepared to shorten the length of time the patient is in the practice.

A wax-up has been made on the situation model, then scanned and milled in breCAM.multiCOM. The polychrome composite is suitable for a dental prosthesis with a wearing time of up to two years.

To make a guide template, the structure is milled a second time in the thermoplastic PMMA breCAM. resin transparent.

The free spaces can be ground afterwards or designed in CAD.

The guide template shows the surgeon the ideal emergence points of the implants after pilot drilling with inserted parallel indicators.

Check on the abutment position. Straight SKY uni. cone abutments have been used in the front and the occlusal titanium prosthetic copings are screwed on. The 35° SKY fast & fixed abutments have been positioned in the region of the side teeth using the insertion aid.

Detailed information relating to the milling blanks: breCAM consumables brochure REF 000500GB













The wound is closed after screwing on the SKY fast & fixed titanium prosthetic copings.

The positions of the prosthetic copings are marked on the guide template. They can then be transferred to the temporary bridge, which is perforated at these positions.

The bridge is checked for imperfections on the prosthetic copings.

Shortening of the copings in accordance with the dimensions of the bridge is recommended so that checking of the occlusion is possible.

The first prosthetic coping is fixed into the bridge using Qu-resin with the help of a bite key. The additional prosthetic copings can be fixed after a check.

The locking pins included in the packaging set for prosthetic copings prevent Qu-resin from flowing into the screw channel.

After removal of the bridge, missing material is added and the bridge is completed.

The temporary bridge can be inserted into the patient's mouth after just a short period.





# Permanent restoration

# Final modelling with the temporary bridge











A

In addition to the prosthetic parameters, the temporary bridge can be used to enquire about the patient's impression in terms of the aesthetics and care. This information is not just helpful in the patient discussion to determine the permanent restoration; it can also be transferred directly to the master model using the temporary bridge.

This procedure reduces the time and material outlay of an open impression with the same precision.

The SKY fast & fixed protocol provides for tension-free oral fixation of the prosthetic copings in the bridge body during manufacture of the temporary bridge. This enables the temporary bridge to be used instead of interlocked impression copings.

The previous abutments must be retained for the permanent restoration.

#### Procedure

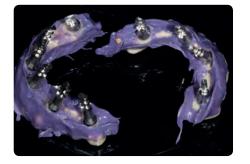
The temporary bridge is injected underneath with light body. Modelling is carried out on top using a ready-made tray and alginate.

The alginate impression is removed. The bridge screws are loosened and the bridge is also removed. The lining shows the current gingival situation.



After disinfection, the laboratory analogues are held using forceps whilst being screwed to the bridge splint.













The temporary bridges for the maxilla and mandible with laboratory analogues screwed on.

The bridge is repositioned in the alginate impression.

The model is manufactured as normal using gingival mask.

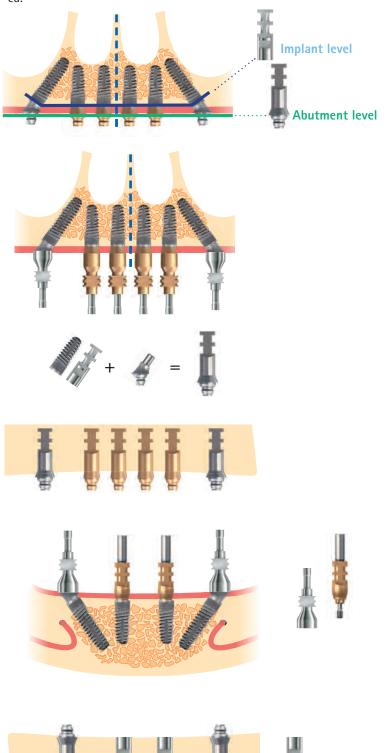
Following deforming, the opposing jaw is fixed using a bite key and the model is articulated.

A matrix or scan captures the temporary bridge situation. This useful information provides a clear specification for the permanent restoration.

The temporary bridges are reinserted into the patient's mouth following cleaning and disinfection.



The final restoration can be carried out using the SKY fast & fixed abutments at abutment level. In the event that final restoration is planned for implant level, additional SKY implant systems can be selected.



All names marked with <sup>®</sup> or <sup>™</sup> are protected brands and/or company names of third-party rights holders.

If the final restoration is carried out on this abutment level, no additional abutments are required. Exchange of the abutments is not required. This reduces the amount of work required and the use of materials, whereby time and money can be saved. Moreover, the gingiva attached to the abutment is not traumatised again.

When taking an impression with SKY fast & fixed and SKY uni.cone impression copings, the position of the rotationally symmetrical abutment shoulder is transferred.

The SKY fast & fixed or SKY uni.cone laboratory analogue is used to manufacture the model. The laboratory analogue corresponds to the implant with screwed abutment.

The construction is manufactured according to the manufacturing of the model with SKY fast & fixed or SKY uni.cone prosthetic copings.

Changing the abutment is not possible using this procedure, as the implant interface, the position of the Torx<sup>®</sup> and the implant shoulder are not transferred.

If the option to change the abutment is to be retained, the impression must be taken with the SKY impression abutments at implant level. Another height, angle or change of SKY fast & fixed to SKY uni.cone can thus be facilitated on the model.

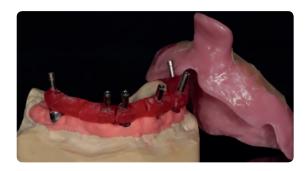
Taking an impression at abutment level is recommended with 35° SKY fast & fixed abutments due to the severe angulation, as clamping by the parallel implant interface can occur when removing the impression if the impression is taken at implant level.

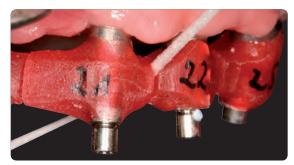


# Partially removable bridge with milled BioHPP framework











Manufacture of a partially removable bridge with milled BioHPP framework and veneering with materials from the visio.lign system.

If SKY fast & fixed abutments are to be used in the temporary as well as the final restoration, it is important that the selection of abutments is designed during the operation in such a way that no aesthetic problems occur in the final restoration, e.g. SKY uni.cone abutments in the front of the maxilla or SKY fast & fixed angled abutments 17.5°.

### Initial model

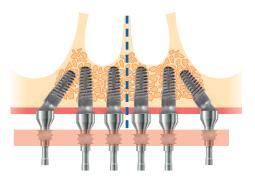
For simple, quick modelling, the SKY fast & fixed or SKY uni.cone snap copings are pressed onto the abutments with a precision groove.

### **Bite registration**

A plastic base plate is fixed to two terminal SKY fast & fixed abutments. Oral positioning is therefore supported by bone and not mucosa. An anterior setup provides an initial idea of the aesthetics.

### Open impression taking

The SKY fast & fixed impression copings for open impression taking are already interlocked with a plastic bar in the laboratory and separated again. Marking of the position helps to avoid mixups.



Taking an X-ray image to check the correct positioning of the impression copings is recommended.

After using dental floss to ensure that there are no undesired contact areas, the individual elements are interlocked. Open impression taking is carried out using customisable breciform D or a laboratorymanufactured individual tray.



SKY fast & fixed impression coping open tray



# Model manufacture









SKY fast & fixed laboratory analogue REF SKYFFTLA



Multisil-Mask soft



The SKY impression abutments and the SKY fast & fixed impression copings are fixed in the block.

The analogues should always be held with forceps while being screwed on to prevent the impression abutments from rotating in the impression.

The choice of firmness, soft or hard, of the gingiva mask is dependent on the planned restoration and the method chosen by the dental technician. In this case, a removable soft gingiva mask with Multisil-Mask soft was manufactured.

In a SKY fast & fixed impression, only the position of the abutment shoulder is transferred. The height and angulation of the abutments are not!

Use the SKY fast & fixed analogue to manufacture the model. The SKY fast & fixed laboratory analogue corresponds to the implant with screwed abutment.









#### Aesthetic try-in

The SKY fast & fixed or SKY uni.cone snap copings for bite registration simplify the aesthetic try-in. Incorporated into the base plate, they stably fix the position of the plate without screw fixation during work in the laboratory and in the try-in in the patient's mouth.





The setup is produced using novo.lign veneers. The visio.lign veneer system is optimally suited to implant constructions with its excellent cushioning properties, particularly in the case of a reduced number of implants.

The aesthetic try-in provides the patient with the first view of his new fixed restoration. "Artificial" gingiva shorten the length of the crowns and also provide support for the cheeks and lips for an optimal aesthetic result. Cleaning options for the patient are checked with the dental hygienist on insertion.



Haptosil D



visio.sil fix



#### Matrix

The matrix is manufactured using high-definition and hard Haptosil D silicone. As a result, novo.lign veneers can be fixed without use of an aid. The matrix with the novo.lign veneers facilitates correct positioning of the framework for the analogue and digital framework modelling.

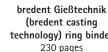
novo.lign veneers offer an economic restoration with a predictable aesthetic result.

The soft bite is not just advantageous in restorations with a reduced number of implants.

The risk of chipping is reduced due to the security and stability properties of the visio.lign veneer system materials.



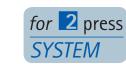






#### Options for framework manufacture

All materials and manufacturing procedures can be technology) ring binder used for the SKY fast & fixed bridge framework, such as cast non-precious metal frameworks or pressed BioHPP frameworks.







SKY fast & fixed scan coping



## CAD/CAM bridge framework

#### Digitalisation

SKY fast & fixed titanium prosthetic copings are exchanged for scan copings for the digitalisation of the model.

Hard silicone injected into the matrix is an alternative to a scan of the matrix with veneers or the set-up. It shows the exact labial space requirement for the novo.lign veneers and therefore facilitates construction of the framework.

#### Construction

In the case of metal frameworks, the framework can be constructed directly onto the abutment, without the use of copings. When working with zirconium and polymer frameworks, bonding of the framework to occlusally or transversally screwed SKY fast & fixed titanium prosthetic copings is recommended. The seat of the screw in the SKY fast & fixed titanium prosthetic copings guarantees a permanent, fixed bond.

BioHPP milling blanks can be processed in every standardised milling machine when using a breCAM. Cutter (mill) especially developed for this purpose. The framework design is determined by the lowest material thicknesses of BioHPP.

Additional information and CAD library

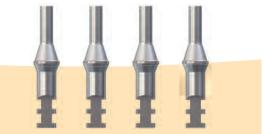








#### Bonding the prosthetic copings in the framework



The straight titanium CAD/CAM prosthetic copings are used in this case. In comparison to the titanium prosthetic copings with retentions, they have a low wall strength. There is therefore more space for framework and veneering.

The prosthetic copings are bonded to the bridge framework in the next step.











visio.link



#### Conditioning The framewor

The framework, the copings and abutment regions that are not to be conditioned can be protected

using wax or silicone. After blasting the prosthetic copings with 110  $\mu$ m aluminium oxide at 3 - 4 bar, clean in oil-free air jet or using a brush. Drip MKZ Primer onto a mixing plate or tray, brush the prosthetic copings using a single-use brush and leave to dry for approximately 30 seconds.

Blast the framework at the bonding sites with 110  $\mu$ m aluminium oxide at 2 bar and clean. Apply visio.link using a single-use brush and cure with light for 90 seconds.

#### DTK adhesive



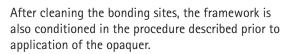
#### Bonding

Oral bonding of the framework to the prosthetic copings compensates for inaccuracies and prevents the creation of tension. After verifying the precision of the master model using a splint, bonding can also be carried out under laboratory conditions. DTK adhesive is a dual-curing (light and autopolymerising), paste-like dual component material for the bonding of metal and zirconium oxide.



# Permanent restoration

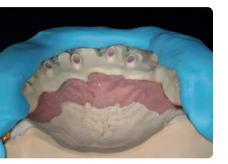








Light channels are drilled using the matrix drill. These channels are required for optimum insertion of the light when fixing novo.lign veneers using combo. lign if no transparent silicone is used.





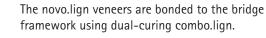
### novo.lign veneers

After they are cleaned, novo.lign veneers are blasted using 110  $\mu m$  blasting abrasive at 2.5 bar on the inside, and the resulting dust is removed using oil-free compressed air.

Steam blasting would leave a moisture residue and compromise bonding. Application of the visio.link adhesive is essential for bonding.







The final form is made using crea.lign in different shades.











#### Fitting of the work

Screwing and unscrewing is made easier by using the battery-operated

CPS (Cordless Prostodontic Screwdriver). The occlusally screwed prosthetic copings and the lateral screws are tightened to 18 Ncm. In addition to occlusion and articulation, the cleaning option with brushes and super floss is checked and the patient receives instruction. Screwing enables the bridge restoration to be removed easily by the dentist for cleaning or reworking.

### flow.sil microgap sealing

The silicone matrix made of flow.sil with no softener ensures reliable sealing of the microgaps between the abutment and bridge structure. Any excess product can be easily removed without a scalpel.



## Indication and use of visio.lign primer

Material	Conditioning	Primer	Bond to	
Ceramic • Silicate ceramic (CAD blanks/mark II/ Lithium (Di)silicate/glass ceramic • Press ceramic/veneer ceramic	er cooling. e. 2 bar	K-Primer Apply twice and allow to vaporise REF APK25003	Composite seconds 2 seconds	er, 30 seconds. inhibition layer oss polish.
Metal/Titanium <ul> <li>CoCr (EMF/NPM) alloys</li> <li>Titanium alloys</li> </ul> Zirconium <ul> <li>Zirconium dioxide (aluminium oxide/spinel ceramic)</li></ul>	amond – with no water cooling with water! hol as required using 110 µm Al-oxide. Zirconium max. 2 bar NPM/titanium/CoCr 3 - 4 bar 2 ba	MKZ Primer REF MKZ02004	vaporise for approx. 1 Zirconium liner	ssite/opaque ED lamp for remove the and high-gl
Precious metal • Precious metal alloys (Au/Ag/Pt/Pd) • eco alloys (precious metal- reduced alloys)	with a coarse di No contact Clean with alcc <b>ral:</b> Sandblast <b>2</b> bar	+ A MKZ Primer REF MKZ02004 MKZ EM activator REF MKZEM004	Allow to v Do not vo to	a thin layer Halogen ligh mposite in th Polish with <sub>F</sub>
Polymers/Composites <ul> <li>High-performance polymers BioHPP/BioXS (PEEK/PEKK)</li> <li>Composites (veneer composite/ composite teeth)</li> <li>PMMA material</li> </ul>	<b>Oral:</b> roughen with Cle <b>Extraoral</b> 2 bar	visio.link REF VLPMMA10 Apply thinly	90 seconds Light polymerisation 370 - 500 nm 370 - 500 nm	Apply polymerise with I Apply crea.lign cor using alcohol.

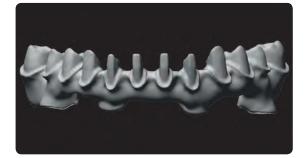
You can find more information on the visio.lign aesthetic and functional system and its components (e.g. novo.lign, neo.lign, crea.lign and primer) at www.visio-lign.com.



# Two-in-one technique

CAD/CAM-supported milling of framework and veneering





aquage



A data set is created by digitalising the master model and aesthetic try-in.

On the basis of this, the CAD software creates a suggestion for the framework, which is adapted to the individual requirements.

One data set - two structures

Two milling orders for veneers and framework are generated from the aesthetic try-in.

The framework material is agreed with the person treating the patient. A CoCr alloy in this case.





### Milled veneering

HIPC originates from the development of the visio.lign system and corresponds to novo.lign veneers in chemical terms, with this material being extremely well-suited for a long-term restoration.

After conditioning of the framework and veneering, both structures are bonded in accordance with the visio.lign protocol.

There are no limits for the individual design when manufacturing using crea.lign thanks to dentine, intensive and transpa colours and solutions for gingival design.

The framework was constructed using transversally screwed prosthetic copings and could therefore be bonded free of tension before veneering. A partially removable bridge, fixed simply and without cement.

Benefits: Maximum use of the machine Custom aesthetics A predictable result Manageable costs No qualitative compromises













# Unilateral free-end situation







The SKY fast & fixed and uni.cone abutment system is designed for primary interlocked, partially removable bridge and bar structures.

- for immediate restoration
- for late restoration
- for partially-edentulous jaws
- for edentulous jaws

Thanks to the combination of implants inserted straight and angled up to 35°, the available bone is used in the best possible manner. Augmentation procedures can often be avoided.

Benefits of using occlusally and transversally screwed prosthetic copings.

- Tension-free fit thanks to bonding
- All materials and manufacturing procedures can be used
- Cement-free fixation
- Partially removable structures



## **One-time - cement-free**

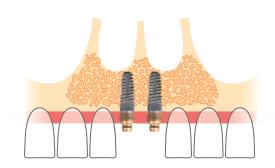




With the SKY uni.cone abutments, the various heights make is easy to adjust to the mucosal situation.

The additional treatment steps are carried out at the abutment shoulder – the gingival level. The established soft tissue is not disturbed further by this procedure.

The impression copings are fixed in a transfer splint. The dental technician can manufacture two interlocked crowns on transversally or occlusally screwed prosthetic copings.



Interlocking of at least two positions is a prerequisite due to a lack of rotation protection.

The temporary and permanent restoration is fixed using screws. The risk of areas of inflammation due to cement residues is therefore prevented.



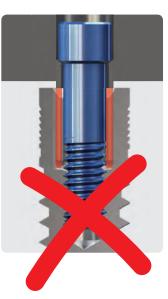


# Permanent restoration

# Transversal screwing into the vestibular side









The SKY fast & fixed prosthetic coping transverse screws are not unscrewed completely. This facilitates handling.

The prosthetic copings for transversal screwing can be positioned freely due to the circumferential ridge. For CAD/CAM structures, the model is digitalised together with the positioned copings and is treated like a stump in the structure.

#### Screwing into the vestibular side

If the lip covers the artificial gingiva, the openings of the screw channels can also be set in a labial or vestibular direction. This facilitates handling for the person treating the patient. The patient has a smooth lingual surface and the tongue is not irritated.

Bridges and bars screwed directly on the SKY implants are contraindicated as the Torx has to be shortened due to the parallel-walled interface. The loading is not absorbed by the Torx but rather lies entirely over the screw, which can lead to loosening and breakage of the screw.

By using the prosthetic copings, tension-free bonding of the structure is possible in accordance with the Weigl protocol.

- The complex Sheffield test can now be discarded
- Small inaccuracies can be compensated for by bonding
- In the case of zirconium and polymer frameworks, the titanium seat of the screw ensures a permanent fixed bond.





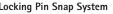






This QR code takes you straight to the catalogue download











Locking Pin Snap System Amongst others, the advantage of a fixed temporary restoration is that the patient is given an idea of the level of care that is required for an implant-supported bridge structure. If the patient desires a solution that is easier to clean, a removable restoration may represent an alternative.

> Compensation for unfavourable implant positions and improved support for lips and cheeks is often possible using a bar structure. Angled insertion or immediate loading of the implants is not a prerequisite.

All types of bar structures are possible with the SKY fast & fixed and SKY uni.cone abutments. Tension-free primary interlocking can be implemented by bonding the occlusally and transversally screwed prosthetic copings, regardless of the material and manufacturing process.

An overview of bar structures, auxiliary elements, attachments and bars is given in the bredent catalogue "Design elements". http://www.bredent.com/en/bredent/download/32265/

## Hybrid prostheses





In addition to primary interlocked structures such as bridges and bars, mucosa-supported, implantanchored hybrid prostheses are a widely-used form of treatment. In addition to better distal positioning with angled implants in the form of SKY fast & fixed, parallel positioning of the insertion direction is possible using the SKY Locator at an angle or SKY TiSi.snap abutments.



SKY Locator<sup>©</sup>

17.5° angled



SKY Locator© 35° angled



This makes insertion and removal easier for the patient and can help to avoid increased wear and tear.

More information can be found at www. bredent-medical.com









5 interdisciplinary core competences support our shared success.

WE ARE ONE means: practice – laboratory – manufacturer combine into a high-performance team. From peridontium to aesthetics, the bredent group has established itself in all 5 areas as a leading company that sets standards in every discipline:

#### Regeneration

HELBO – in a class of its own for fighting infection, with no adverse effects.

#### Implant treatment

The SKY family consistently uses the existing available bone with the highest level of primary stability, simple insertion and durability, which form the foundations for immediate restoration of individual teeth to a full arch.

#### Smart connecting elements

Made in Germany: Quality, safety and versatility of the design elements transfer to intelligent, adjustable abutment solutions.

#### **Bionic framework materials**

When technology imitates nature to offer patients the most body-compatible framework restoration. With cushioning of the chewing force peaks and resilience ideal for implant prosthetics.

#### Physiological veneering

visio.lign - the aesthetic and functional system combining 6 individual disciplines: free layers, veneers, complete teeth, CAD/CAM blanks and pre-fabs, customisation colours and primer/bonder for optimal bonding to all framework and veneer materials.













# Frequently asked questions

### What is the aim of SKY fast & fixed treatment?

The aim of SKY fast & fixed treatment is to treat the patient immediately with a temporary restoration with the least possible surgical effort, after only one procedure with the appropriate indication, which accommodates the masticatory requirements of a modern prosthesis. This means that augmentative procedures should be avoided during surgery and that the option is created to support the prosthesis in position 5 to 6 by setting the posterior implants at an angle.

### To which user is the SKY fast & fixed treatment suited?

SKY fast & fixed treatment requires optimal coordination between implantologists, prosthetic specialists and dental technicians. It is important for successful restoration of the patient's teeth that the dental technician is nearby and actively contributes when bite registration is recorded. The treatment is only successful and economically integrated into practice when carried out in a team.

### Area of application and indication

SKY fast & fixed is a surgical and prosthetic treatment for immediate restoration for patients on the verge of becoming edentulous or those who are already edentulous. In order to better support the temporary restoration, there is the option of setting the posterior implants at a 35° angle in a distal direction. This angulation is offset by special abutments.

### To which patient is the SKY fast & fixed treatment particularly suited?

Patients with residual dentition not worth saving are particularly worried about being edentulous and wish to be supplied with a fixed prosthesis as quickly as possible, ideally after one procedure. SKY fast & fixed treatment gives you the opportunity to offer these patients a treatment that is simple to use, with an aesthetically predictable result, at a fair price.

### How is the temporary restoration manufactured for the immediate restoration?

This manual provides a step-by-step guide to the manufacture of the temporary restoration and the materials required. We recommend following this tried and tested protocol, even if other manufacturing processes are possible.

### Can the final restoration be used as an immediate restoration?

In the case of restorations for immediate restoration, extensions lead to unfavourable applications of force in the implant. The temporary restorations terminate in the distal implant position, usually in the region of the first premolar. Patients tolerate the shortened rows of teeth in the temporary restoration. In the final restoration, a restoration with 12 units can be used through two cantilevers in the premolar width following successful osseointegration of the implants!

### What are my options for the final restoration?

SKY fast & fixed abutments are suitable for primary interlocked bridge and bar structures with occlusal or transverse screw retention. By using the appropriate prosthetic copings, all types of framework materials can be manufactured with no tension, by bonding in accordance with the Weigl protocol.

### **Contraindications:**

SKY fast & fixed treatment **is not suitable for patients** who possess the usual contraindications for implantology, e.g. cardiac and circulatory problems, bruxism, osteoporosis, heavy smoker, alcohol abuse, diabetes, etc.

### What are the clinical experiences with SKY fast & fixed treatment?

The original concept was developed by Dr. Malo from Lisbon (PT). He treated several thousand patients using this procedure, with great success. Further development and adaptation to the SKY implant system was carried out by the practice of Drs. Bayer, Kistler and Elbertshagen in Landsberg am Lech. The aim of cooperation was to establish a practice-oriented treatment that was simple to use, with aesthetic results and that was economically successful for the practice and laboratory.

### How do the angled implants behave in the long term?

Immediate restoration of the implants with the corresponding abutments under sterile conditions is important for permanent bone retention. Using this measure, the problem of microgaps is reduced and permanent success is ensured. The abutment should also not be removed from the final restoration. In the cases treated to date, no increased bone loss has been determined.



# Patient information for SKY fast & fixed implants



Page 1 of 2

This explanatory form contains all important information concerning what you should and should not do after your operation. Following the instructions given below will contribute towards a longer life for your implants.

- 1. **Do not eat and drink** until after the local anaesthetic has worn off. You may bite your cheek without realising.
- 2. As your ability to react will be impaired after the procedure, you should **not drive a vehicle**.
- 3. **Cool** the wound area during the first few hours after the operation. Do not leave the cooling pack or a cold wash cloth on one site for longer than 30 seconds, so that no hypothermia occurs.
- 4. Avoid excessive consumption of alcohol and drinks containing caffeine such as coffee, black or green tea, after the operation.
- 5. **Do not undertake any physical exertion** in the first few days, this includes, amongst others, all sporting activities and heat such as a sauna or sunbathing.
- 6. Avoid any smoking until the day the sutures are removed. Smoking damages the blood supply, which can lead to significant disturbances to wound healing and spontaneous implant loss.
- 7. A thrombus will form quickly, which contributes to wound healing. The grey coating is also part of the body's own healing process. Do not remove this!
- 8. Slight bleeding from the wound is normal. You can stop smaller areas of bleeding yourself using pressure on the wound by biting on a gauze pad or a folded handkerchief. Larger areas of bleeding occur very rarely. If this is the case, call us or contact the emergency dental service.
- 9. Avoid excessive strains on the wound area. You can brush your teeth as normal, but avoid the wound. Do not press around the wound with your fingers. Rinse your mouth out with rinsing solution or sage tea after eating.
- 10. Do not eat **fresh milk products** containing bacteria cultures (e.g. yoghurt) if possible. The milk acid bacteria contained in these products may lead to infections and disturbances to wound healing.
- 11. A soft diet (noodles, rice, vegetables, fish, tender meat etc.) is prescribed for a duration of 6 weeks. Food such as nuts, crusty bread, tough meat and suchlike, which cause a high chewing load, should be avoided.

*» Turn the page* 





# Patient information for SKY fast & fixed implants



Page 2 of 2

- 12. In rare cases, this can lead to loosening of the screws and sometimes also to breakage of the temporary bridge. In the event that this occurs, you must contact the practice immediately so that the bridge can be re-tightened or repaired. If this is not done, greater damage or loss of implants could potentially occur.
- 13. Please take the **medication prescribed** by us in the doses stated. In the event of pain, you may take analgesic medication. However, please heed the patient care leaflet in terms of use and tolerance. Do not, however, take ASA (Aspirin<sup>®</sup>) this can lead to bleeding.

Should you experience persistent pain or larger areas of bleeding, please call us.

We wish you a speedy recovery!

Your Practice Team

Practice stamp/Signature

Explanation date

Patient signature







# Master copy for referring doctors

## Important information for referrers in SKY fast & fixed cases

SKY fast & fixed treatment has been used for immediate restoration.

To avoid excessive surgical measures, implants have been set at a severely angled position. The screwed 35° abutments do not need to be removed for the final restoration and are located in position......(please enter position).

Only the 35° abutment must remain screwed. In the case of 0° abutments, the regular SKY abutment system should be selected due to improved options for the final prosthetic restoration.

A mixture of SKY fast & fixed abutments and regular abutments from the SKY implant system will not cause any problems.

The SKY implant system possesses two prosthetic platforms. The abutments for the narrow platform are anodised rose gold for improved differentiation. These abutments can be used for both narrowSKY and the regular platform for SKY classic and blueSKY with platform switch.

Abutments with a regular platform can be used for all implant diameters of SKY classic and blueSKY. This makes selection of abutments and the prosthetic restoration simpler.

The SKY implant system contains only one screw driver for all occlusal screws (Torx<sup>®</sup> T6). Abutment restoration can be carried out rapidly without changing tools using one screwdriver.

For further information, please see the SKY fast & fixed manual and the SKY system presentation.

bredent medical is available at any time should you require advice. To request a catalogue or a visit from a regional manager, please call bredent medical on Tel. +49 (0) 73 09 / 8 72-4 40 or send a fax to +49 (0) 73 09 / 8 72-4 44.



# The Compendium





Iten

Clinical Cases can be viewed by scanning the QR code or by visiting www.bredent-medical.com/en/scientific



**Cases online** 

Immediate restoration with reduced number of implants REF 992 9710 D REF 992 971 GB

Authors: Dr. Georg Bayer Dr. Frank Kistler Dr. Steffen Kistler Stephan Adler Dr. Jörg Neugebauer



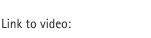
Scientific Book 2012



# Demonstration model and information







**Demonstration model** 

with nerve course REF 580ZMFF1

and temporary bridge REF 580ZMFF3

patients.

Request the SKY fast & fixed demonstration model and use it to explain the treatment model to your

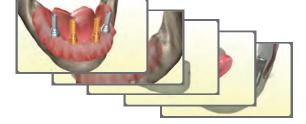
Cross-section model SKY fast & fixed

Cross-section model SKY fast & fixed with nerve course, gingiva mask

http://youtu.be/idtlVWCjb5U



This QR code takes you directly to the video.





Free Download 3D animations



http://www.videos.bredent-medical.com

...attractive... Immediate restoration for the edentulous jaw

For your patients, we offer attractive information brochures for SKY fast & fixed treatment. Please request your free copies. REF 000 540 GB



## SKY fast & fixed - accessories





### SKY fast & fixed bridge kit



SKY fast & fixed kit maxilla REF: 580FFBOK

- top.lign professional crown and bridge material
- novo.lign veneers 147 A3, L3 A3



SKY fast & fixed kit mandible REF: 580FFBUK

- top.lign professional crown and bridge material
- novo.lign veneers D38 A3, L3 A3

# flow.sil - microgap sealing







### • Prevents contamination of the cavities

- Provides a clean seal
- Reduces peri-implantitis
- Reduces halitosis
- Prevents chronic inflammation of the area of application
- Any excess product can be easily removed without a scalpel

Set contains: 5 ml double cartridge 4 mixing cannulas 4 tips REF 58001270

Please enter the order quantity in the white field

fast & fixed



Date ...... Signature ......



Please enter the order quantity in the white field

Packaging unit

Packaging unit

# Temporary restoration – recommended materials

ltem

	NLI	Fackaging unit	Fackaging unit
<b>breciform D range</b> Impression tray – single use Mandible/maxilla: S, M, L, XL	580 UOTS S	100-piece range per 10 impression tray pieces 10 pieces occlusal triangular sto 10 pieces occlusal bar stop	qq
brecision implant heavy Blue impression material with improved mixing cannula	580 BH38 0	1 x 380 ml 5 x dynamic mixer 1 x bayonet ring yellow	
<b>brecision Putty soft</b> Kneading silicone for oral use Kneadable base material	580 0002 4	3-piece set 250 ml base grey 250 ml catalyst white 2 measuring spoons	
Dentaclean Impression and prosthesis disinfection	520 0100 6	1000 ml concentrate	
Exakto-Rock S Synthetic super-hard class IV plaster, ivory	570 0SE5 2 570 0SE5 1 570 0SE5 0	1 x 2 kg 5 x 2 kg 10 x 2 kg	
<b>visio.sil fix</b> High-definition matrix silicone	540 0130 0	50 ml	
Haptosil D Kneading silicone for the laboratory Component A + B Component A + B	540 0118 0 540 0119 0	2 x 1,300 g 2 x 7,500 g	
Matrix drill	330 0078 0	1 piece	
Qu-resin Rapidly-curing, autopolymerising prosthesis repair plastic	540 0116 2	50 ml	
<b>top.lign professional</b> A2 dentine material A3 dentine material Enamel 1 cutting glass. top.lign professional liquid	proDA201 proDA301 proEN101 proliq01	40 g 40 g 40 g 100 ml	
SKY fast & fixed Kit Maxilla SKY fast & fixed Kit Mandible	580FFBOK 580FFBUK	top.lign professional novo.lign veneers I47, A3 - L3, A3 top.lign professional novo.lign veneers D38 A3 - L3 A3	
Abraso Star K50 polishing paste Round brush Rodeo 18 mm diameter Abraso-Starglanz high-shine polishing paste	520 0016 1 350 0096 0 520 0016 3	320 g 15 pieces 2 x 50 ml tube	
<b>Setup wax</b> Range SW 3, 4, 5	430 0149 0	220 g	
<b>novo.lign veneers</b> Please request our design selection brochure!	000 2020 D	1	
Posi-boy Model positioning base	360 0101 0	1 piece	

REF



Date .....

Signature ..

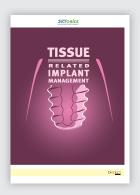
Stamp





# Other offers that may be of interest





Tissue Related Implant Management REF 009912GB



BioHPP - The reference REF 000 547 GB

**DENTAL INNOVATIONS** SINCE 1974



Implant prosthetics REF 009913GB



BioHPP elegance hybrid abutments REF 000 534 GB



Implant therapies for immediate restoration REF 000200GB



HELBO<sup>®</sup>-Treatment REF 000 429 GB

