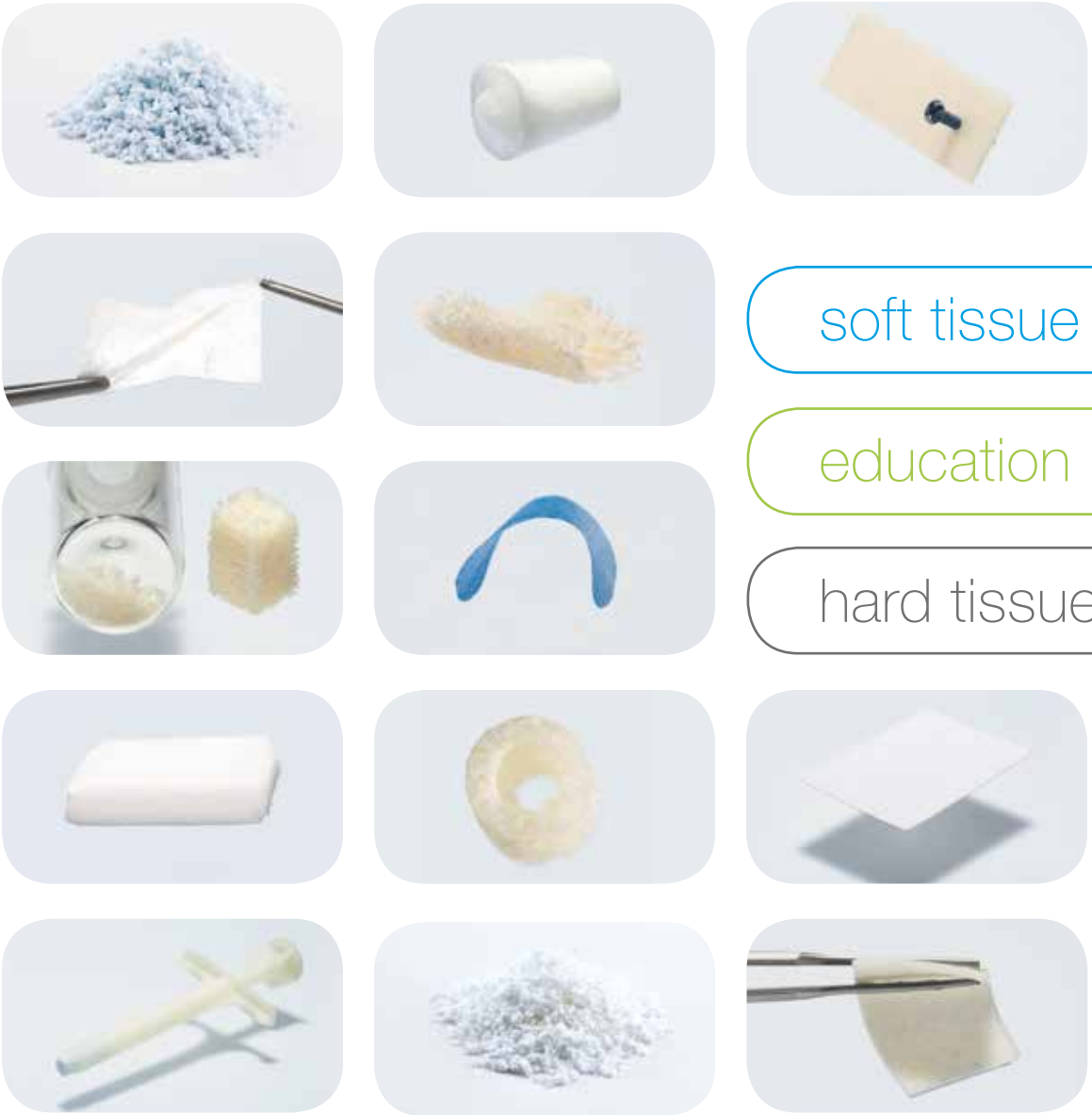
bone & tissue regeneration

botiss biomaterials

Product Catalog

DENTAL BONE AND TISSUE REGENERATION



soft tissue

education

hard tissue

biomaterials

botiss regeneration system

Development / Production / Distribution

cerabone®

Natural bovine bone graft

maxgraft® cortico

Processed allogenic bone plate

maxgraft®

Processed allogenic bone graft

maxgraft® bonebuilder

Patient matched allogenic bone implant

maxgraft® bonering

Processed allogenic bone ring

maxresorb® inject

Synthetic injectable bone paste

maxresorb®

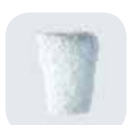
Synthetic biphasic calcium phosphate

maxresorb® flexbone

Flexible blocks (CaP / Collagen composite)

Straumann® Emdogain®

Enamel matrix derivative



collacone® max

Flexible cone (CaP / Collagen composite)

collacone®

Collagen hemostat (Cone)

collafleece®

Collagen hemostat (Sponge)

mucoderm®

3D-stable soft tissue graft (Collagen)

collprotect® membrane

Native collagen membrane

Jason® membrane

Native pericardium GBR / GTR membrane

permamem®

High-density PTFE barrier membrane

bone & tissue regeneration

botiss biomaterials

360° – the botiss regeneration system:
Innovation, Safety, Reliability, and Aesthetics

botiss biomaterials offers you a unique systematic BTR approach – the complete regenerative biomaterial portfolio for Implantology, Oral and CMF Surgery, and Periodontology at hand.

We all know – no single bone graft or soft tissue biomaterial can suit all medical needs, biological situations, and indications. Factors, such as indication, age, hygiene, biotype, bone height, and treatment plan, require a sophisticated approach with different, coordinated products.

To achieve optimal results, we offer you the botiss regeneration system. It includes all long-term proven biological materials (e.g., bovine, synthetic, allografts, collagen, granules, blocks, membranes, and soft tissue matrices), which can be used in various combinations for each specific indication. All products are manufactured according to the highest quality standards.

Patient's safety, ease of use and reliable treatment results – these are your and our first priorities. The products of the botiss regeneration system have proven their success in terms of safety, efficacy, and reliability in a multitude of preclinical and clinical studies and, most importantly, in the daily clinical work, with hundreds of thousands of patients treated worldwide.

We substantially invest in research and education. Unique innovations, such as mucoderm® and maxgraft® bonebuilder, the concept of high-quality learning and education with the botiss academy, and our international bone & tissue days are the results of our partnership with worldwide renowned academic research institutes, global opinion leaders, and practitioners in their daily clinical environment.

botiss biomaterials is one of the leading companies in the field of dental bone and tissue regeneration. The botiss regeneration system is available in over 100 countries worldwide via a global network of distribution partners and employees, who are committed experts in the field of oral surgery and implantology.

botiss is an innovative, clinically oriented biotech company headquartered in Berlin, with R&D and production sites in Germany, Austria, and Great Britain. One focus lies on dental regeneration.

We proudly welcome you to the botiss regeneration system community. We invite you to share your experiences and suggestions with us, which are precious to further improve our products or develop new product concepts.

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bone substitutes

cerabone®

maxresorb®

maxresorb® inject

collacone® max

maxgraft®

maxgraft® bonering

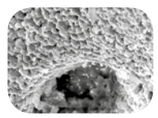
maxgraft® cortico

maxgraft® bonebuilder

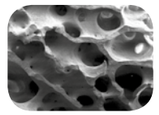
cerabone®

NATURAL BOVINE BONE GRAFT

Owing to its reliability, bovine bone grafting material is the material of choice for the majority of dentists. cerabone® is a highly reliable, long-term dimensionally stable and safe bone graft.



SEM: cerabone® structure with macro- and micropores resembling human bone



SEM: cerabone® macro- and micropores resembling human bone

Histology of cerabone® six months after sinus lift: optimal integration and bone healing with cerabone®

The pronounced surface hydrophilicity of cerabone® supports a fast uptake of blood or saline, thus improving its handling. Likewise, its three-dimensional porous network enables a fast penetration and adsorption of blood and serum proteins and serves as a reservoir for proteins and growth factors. The unique manufacturing process based on high-temperature heating removes all organic and potentially antigenic components, making the material absolutely safe and free of proteins. cerabone® is the leading natural bovine bone grafting material of German origin, as demonstrated by its clinical and scientific success.

Properties

- Proven natural bovine bone substitute with high long-term volume stability
- 100% pure biologic bone apatite
- Highest possible safety due to high temperature treatment
- Highly interconnected osteoconductive scaffold
- Rough surface favouring optimal cell adhesion and blood absorption
- Easy handling

cerabone® excellent biofunctionality; superior hydrophilicity and blood uptake

cerabone® granules

Art.-No.	Particle Size	Content
1510	0.5 – 1.0 mm	1 × 0.5 ml
1511	0.5 – 1.0 mm	1 × 1.0 ml
1512	0.5 – 1.0 mm	1 × 2.0 ml
1515	0.5 – 1.0 mm	1 × 5.0 ml
1520	1.0 – 2.0 mm	1 × 0.5 ml
1521	1.0 – 2.0 mm	1 × 1.0 ml
1522	1.0 – 2.0 mm	1 × 2.0 ml
1525	1.0 – 2.0 mm	1 × 5.0 ml

cerabone® block

Art.-No.	Dimension	Content
1720	20 × 20 × 10 mm	1 × block

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

- Sinus lift
- Horizontal and vertical augmentation
- Intraosseous defects (1 to 3 walls)
- Peri-implant defects
- Socket and ridge preservation
- Furcation defects (class I and II)

cerabone® block

maxresorb®

SYNTHETIC **BIPHASIC CALCIUM PHOSPHATE**

maxresorb® is an innovative, safe, and fully synthetic bone substitute material that is characterized by controlled resorption properties and outstanding handling characteristics.

maxresorb® is composed of 60% slow resorbing hydroxyapatite (HA) and 40% fast resorbing beta-tricalcium phosphate (β-TCP). The unique synthesis-based production process ensures a completely homogenous distribution of both phases.

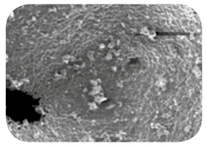
The special composition of maxresorb® promotes fast new bone formation, while ensuring long-term mechanical and volume stability. The osteoconductivity of maxresorb® is based on a matrix of interconnecting pores, a very high overall porosity of approx. 80% as well as its rough surface. The nano-structured surface facilitates the adsorption of blood, proteins, and stem cells, thus supporting cell differentiation and bony integration. maxresorb® is a reliable alternative to bovine bone for many indications.

Histology of maxresorb® six months after sinus lift: optimal integration and bone healing with maxresorb®

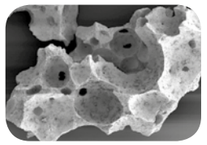
The ideal hydrophilicity of maxresorb® granules ensures excellent handling characteristics when in contact with blood

Properties

- 60% HA/40% β-TCP
- Osteoconductive
- Ultra-high interconnected porosity
- Volume and mechanical graft stability
- Safe, reliable and sterile
- Very rough and hydrophilic surface
- 100% synthetic and resorbable



SEM picture showing maxresorb® nano-structured surface



SEM picture showing porosity of maxresorb® particle

Product Specifications

maxresorb® granules

Art.-No.	Particle Size	Content
20005	0.5 – 1.0 mm (S)	1 × 0.5 ml
20010	0.5 – 1.0 mm (S)	1 × 1.0 ml
20105	0.8 – 1.5 mm (L)	1 × 0.5 ml
20120	0.8 – 1.5 mm (L)	1 × 2.0 ml

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

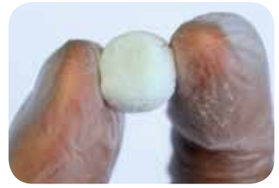
- Sinus lift
- Ridge augmentation
- Intraosseous defects
- Extraction sockets
- Osseous defects
- Furcation defects

maxresorb® inject

SYNTHETIC **INJECTABLE BONE PASTE**

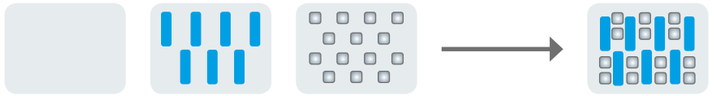
maxresorb® inject is a highly innovative, injectable and non-hardening bone graft paste.

The unique paste material is composed of a water-based gel with nano-hydroxyapatite particles and biphasic maxresorb® granules (composed of 60% HA and 40% β-TCP), combined to provide an improved resorption profile. The active nano-HA particles provide a large surface promoting cell-biomaterial interaction. This leads to fast cellular resorption and stimulates fast new bone formation, while the maxresorb® granules support volume maintenance. maxresorb® inject is gradually replaced by mature new bone.
The highly viscous maxresorb® inject paste is moldable and allows perfect fiiting to the defect contours and bonding to the surrounding bone surface.



maxresorb® inject paste

Unique Regenerative Four-Phase Activity



water/gel
carrier-guided vascularization

active HA
cell activation, bioactive regeneration

biphasic Ca/P
balanced resorption and bone formation, volume stability

maxresorb® inject
unique, injectable, synthetic bone graft

maxresorb® inject ideal blood uptake

Product Specifications

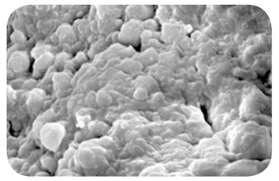
maxresorb® inject

Art.-No.	Unit	Content
22005	1 × syringe	1 × 0.5 ml
22010	1 × syringe	1 × 1.0 ml
22025	1 × syringe	1 × 2.5 ml

Properties

- Non-hardening bone graft paste
- Injectable and easy handling
- Viscous and moldable
- Optimal fitting to defect contours
- 100% synthetic, safe and resorbable
- Active hydroxyapatite crystals

maxresorb® inject -
Easy handling and good moldability



SEM:
maxresorb® inject surface structure

INDICATIONS:

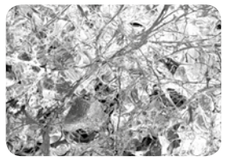
Implantology, Periodontology and Oral and CMF Surgery

- Sinus lift
- Intraosseous defects
- Socket preservation
- Osseous defects
- Regeneration in small/contained defects
- Gap-filling in combination with other bone substitutes

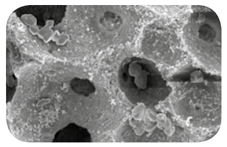
collacone® max

CALCIUM PHOSPHATE **COLLAGEN CONE**

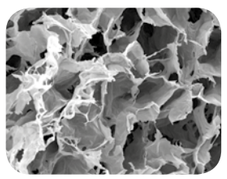
collacone® max is a biomimetic composite material that resembles the native human bone in its basic biphasic composition of collagen and calcium phosphate (maxresorb® granules).



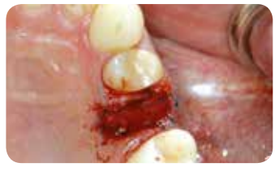
SEM: collacone® max and its constituents



maxresorb® (top) and collagen (bottom)



While the collagenous phase provides biological signals that promote wound healing within the socket, the mineral hydroxyapatite phase ensures primary stability and complete resorption at a controlled, slow rate. collacone® max is designed to fit into the void of the extraction socket when performing an early implantation, or as a regenerative material that assists new bone formation in the case of delayed implantation.



Clinical application of collacone® max, covered with mucoderm®

Properties

- Form-fitted cone shape for an easy application
- Adapts to the defect contours
- Maintains space and avoids soft tissue collapse
- Reduces the need for subsequent augmentative procedures
- Improves the aesthetic outcome of the final prosthesis

Product Specifications

collacone® max

Art.-No.	Shape	Dimension	Content
250001		height ~16 mm, width on top ~11 mm, bottom width ~7 mm	1 x cone

Bundle collacone® max and mucoderm® soft tissue punch

Art.-No.	Content
257110	1 x collacone® max 1 x mucoderm® punch (Ø 10 mm)

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

- Socket and ridge preservation
- Intraosseous defects
- Peri-implant defects
- Defects after root resection, apicoectomy and cystectomy

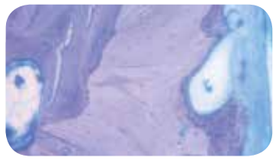
maxgraft®

PROCESSED **HUMAN ALLOGRAFT**

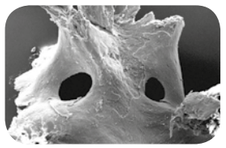
maxgraft® is a sterile, high-safety allograft product, derived from human-donor bone, processed by Cells+Tissuebank Austria (C+TBA). C+TBA, a high-quality bone bank, is regulated, audited, and certified by the Austrian Federal Office for Safety in Health Care and fulfills the highest EU safety standards.

Mixability with blood

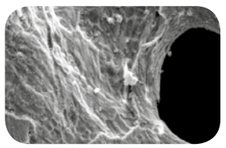
For experienced oral and maxillofacial surgeons, allograft bone blocks for block augmentation are the only real alternative to harvesting the patient's own autologous bone. This helps preventing well known risks such as donor-site morbidity, infection, post-operative pain, and bone-stability loss.
The biological regeneration capability of maxgraft® allows for excellent clinical outcomes.



Histology of maxgraft® five months after implantation: optimal integration and bone remodeling with maxgraft®



SEM: maxgraft® particle



SEM: maxgraft® mineralized collagen fibers

Structure of maxgraft® block

Properties

- Natural mineralized collagen
- Preserved biomechanical properties
- Osteoconductive properties supporting natural and controlled tissue remodeling
- Bone augmentation without autograft harvesting
- No donor site morbidity
- 5 years shelf life at room temperature
- Safe and sterile

Product Specifications

maxgraft® cancellous granules

Art.-No.	Particle Size	Content
30005	< 2.0 mm	1 x 0.5 ml
30010	< 2.0 mm	1 x 1.0 ml
30020	< 2.0 mm	1 x 2.0 ml
30040	< 2.0 mm	1 x 4.0 ml
30030	2.0–5.0 mm	1 x 3.0 ml

maxgraft® cortico-cancellous granules

Art.-No.	Particle Size	Content
31005	< 2.0 mm	1 x 0.5 ml
31010	< 2.0 mm	1 x 1.0 ml
31020	< 2.0 mm	1 x 2.0 ml
31040	< 2.0 mm	1 x 4.0 ml

maxgraft® blocks

Art.-No.	Dimension	Content
31111	uni-cortical 10 x 10 x 10 mm	1 x block*
31112	uni-cortical 20 x 10 x 10 mm	1 x block*
32111	cancellous 10 x 10 x 10 mm	1 x block
32112	cancellous 20 x 10 x 10 mm	1 x block

Living donors
*: Organdonors
Tissuebank: Cells+Tissuebank Austria, Krems, Austria

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

maxgraft® granules:

- Localized augmentation of the ridge for future implant placement
- Reconstruction of the ridge for prosthetic therapy
- Osseous defects
- Socket Preservation
- Sinus lift
- Intrabony periodontal defects

maxgraft® blocks:

- A predictable and highly effective alternative to
- traditional block grafting
- Ridge augmentation

maxgraft® bonering

PROCESSED **ALLOGENIC BONE RING**

maxgraft® bonering is a pre-fabricated cancellous ring of human donor bone, which is placed press-fit into a trephine drill-prepared ring bed. At the same time, an implant is inserted into the ring. The bony integration of both, maxgraft® bonering and the implant, occurs via the surrounding vital bone.

Preparation of ring bed

After determination of the position of the implant by the planator tip and the pilot drill, the ring bed is prepared with the trephine. Subsequently, the planator allows even paving of the local bone for optimal contact with maxgraft® bonering and in addition, removes the cortical layer for improved graft revascularization.

The maxgraft® bonering technique allows bone augmentation and implantation in a one-stage procedure. The technique is applicable for almost all indications, including sinus lift with limited maxillary bone height.

The height of maxgraft® bonering is adjustable to the defect

The maxgraft® bonering technique enables vertical bone augmentation and direct implantation

Immediate implant insertion through maxgraft® bonering ensures primary stability of implant and graft

Compared to the classical, two-stage augmentation with i.e. bone blocks, this technique reduces the entire treatment period by several months and saves the re-entry.

The maxgraft® bonering allows vertical and horizontal augmentation and new bone formation, therefore simplifying the surgical treatment.

INDICATIONS:

Implantology

- Vertical augmentation (in combination with horizontal augmentation)
- Single tooth gap
- Edentulous space
- Sinus lift

Advantages

- One step procedure - simutaneous implant placement and bone augmentation
- Bone augmentation without autograft harvesting
- Reduced treatment time (by several months)

One-stage bone augmentation and implant placement

Smooting

Sharp edges should be smoothened to avoid soft tissue perforation and to support wound healing. Moreover, maxgraft® bonering should be covered with a slowly resorbable bone regeneration material (e.g. cerabone®) to fill the residual defect volume and to avoid potential adaption resorption of the graft

Soft tissue management

After covering of the graft with a collagen membrane (Jason® membrane) a tension-free suturing of the operation site must be assured to avoid tissue perforation and graft exposure

maxgraft® bonering surgical kit

With this surgical kit, botiss provides all necessary instruments to apply the maxgraft® bonering technique. The kit includes two convenient sizes of trephines, which precisely match the maxgraft® bonering diameters.
The planators allow paving of the local bone to create a congruent and fresh contact surface of the recipient site. The diamond disc and the diamond tulip help to shape the maxgraft® bonering for excellent adjustment to the local bone and for improved soft tissue healing. All instruments are made of high quality surgical steel.

trephine 7 mm | trephine 6 mm | planator 7 mm | planator 6 mm | diamond disc 10 mm | diamond tulip 3 mm

Product Specifications

maxgraft® bonering 3.3

(Height 10 mm, recommended for implant diameters from 3.3 - 3.6 mm)

Art.-No.	Dimension	Content
33160	cancellous ring, Ø 6 mm	1 x
33170	cancellous ring, Ø 7 mm	1 x

maxgraft® bonering 4.1

(Height 10 mm, recommended for implant diameters from 4.1 mm)

Art.-No.	Dimension	Content
33174	cancellous ring, Ø 7 mm	1 x
33000	maxgraft® bonering surgical kit	1 set
33010	bonering fix	1 x

bonering fix

maxgraft® cortico

SHELL TECHNIQUE

WITH **ALLOGENIC BONE PLATES**

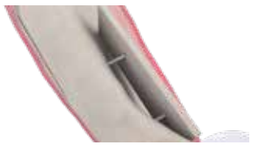
maxgraft® cortico is a prefabricated plate made of processed allogenic bone. Similarly to the autogenous bone, it can be used for the shell technique.

maxgraft® cortico was developed to avoid the donor-site morbidity and to prevent the time-consuming harvesting and splitting of autologous cortico-cancellous bone blocks.

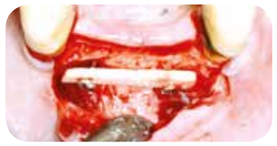
Preparation of the augmentation area

The proper size of the plate is estimated after the elevation of the mucosal flap or preoperatively using a digital planning software. Using a diamond disc, the plate is then cut extraorally.

Fixation and adaption



The plate is positioned with a distance by predrilling through plate and local bone and fixation with osteosynthesis screws to create a fixed compartment. It is pivotal to drill threated holes into the cortical plates, which prevent the plates from gliding on screw threats. Therefore, a drilling head with 0.2 mm smaller diameter than that of the applied screws is recommeded for drilling (e. g. use a 1 mm drilling head for 1.2 mm screws). To prevent perforations of the soft tissue, sharp edges need to be removed, e.g. by using a diamond ball.



Augmentation of a frontal mandibular defect

Indications:

- Vertical augmentation
- Horizontal augmentation
- Complex three-dimensional augmentations
- Single tooth gaps
- Fenestration defects

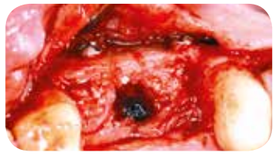
More details on the surgical procedure on:

BOTISS-DENTAL.COM

The shell technique with maxgraft® cortico

Filling and wound closure

The space between local bone and cortical plate can be filled with a variety of different particulated bone grafting materials. Then, the augmentation area needs to be covered with a barrier membrane (Jason® membrane, collprotect® membrane) and a tension-free and saliva-proof closure must be applied.



Six months after transplantation, a superficial resorption of the plate can be seen; the stability, however, is maintained

Natural bone regeneration

To facilitate osteogenesis, allogenic particles can be used to fill the defect. The preserved human collagen provides an excellent osteoconductivity and enables a complete remodeling. Mixing with autologous chips or particulated PRF matrices can support the ossification.

Advantages

- Established augmentation technique with new material
- Significant reduction of operation time
- No donor-site morbidity
- No limitation of augmentation material

Properties

- Osteoconductive
- Natural and controlled remodeling
- Conserved biomechanical parameters

Product Specifications

maxgraft® cortico

Art.-No.	Dimension	Content
31251	cortical strut, 25 x 10 x 1 mm*	1 x
31253	cortical strut, 25 x 10 x 1 mm*	3 x 1

*: organ-/ tissuedonors

cortico trimmer

Art.-No.	Content	
34000	cortico trimmer	1 x

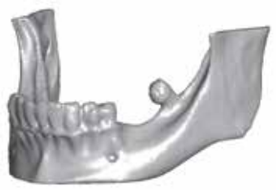
maxgraft® bonebuilder

CUSTOMIZED ALLOGENIC BONE BLOCK

maxgraft® bonebuilder is a customized allogenic bone block, which is individually adjusted to the bone defect. With maxgraft® bonebuilder, harvesting of autologous bone and manual adjustment of the obtained transplant is no longer required for the treatment of extensive defects. Donor site morbidity, operation time and costs can be significantly reduced.

The maxgraft® bonebuilder technology

In-house planning



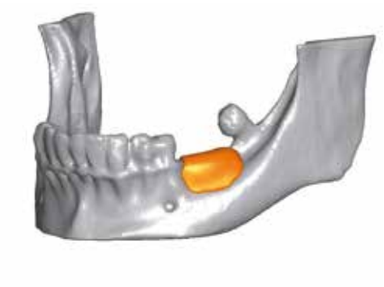
The CT/CBCT-data of the bone defect is transfered into a 3D model

botiss virtually designs the patient customized allogenic bone block based on the CT/CBCT-scan of the bone defect. The design of the bone block undergoes a final inspection by the clinical user and is, by individual order, released for production. The botiss partner Cells+Tissuebank Austria receives a *.stl milling file and the patient matched allogenic bone block is produced under cleanroom conditions. The resulting bone block is ready for insertion into the defect with only minor adjustments.

After placement, the maxgraft® bonebuilder block is fixed with osteosynthesis screws. Residual defect volume should be filled with bone regeneration material and the augmentation site should be covered with a collagen membrane.

The strong capillary action of the three-dimensional, porous trabecular bone network enables fast and efficient penetration of nutrients and blood, resulting in excellent handling, as well as reliable and predictable outcomes.

Based on this model botiss designs a virtual block, which matches the surface structure of the defect and allows stable implant insertion after augmentation



The customized maxgraft® bonebuilder block allows precise horizontal and vertical reconstruction of the atrophic ridge

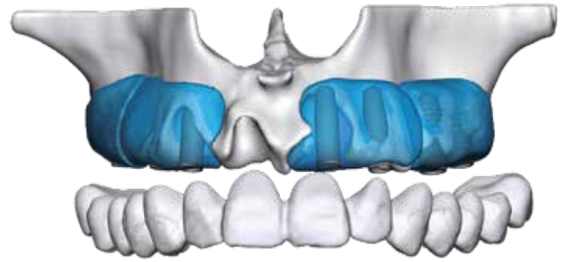
Indications

- Extensive bone defects
- Atrophic maxilla/mandibula
- Horizontal/vertical augmentation

Advantages

- Individualized allogenic bone block
- Significantly reduced operation time
- Improved wound healing

The maxgraft® bonebuilder technology



The maxgraft® bonebuilder technology allows complex reconstruction in cases of extensive jaw atrophy

1. Upload of CT/CBCT-data on
www.botiss-bonebuilder.com

After registration, CT/CBCT-data of the patient can be uploaded on the botiss server. All radiological data have to be single-frame data images. The only data type suitable for 3D planning is DICOM (*.dcm).

2. Block design

botiss designers create a three-dimensional model of the radiological images and design a virtual bone transplant in consultation with the clinical user.

3. Design quality check

The clinical user receives a 3D PDF file containing the virtually constructed maxgraft® bonebuilder block and has to confirm its design.

4. Individual order

The production of the block starts after the clinical user fills in the patient based order form for the bone block to the attention of botiss biomaterials.

5. Production of the individual bone block

At C+TBA the *.stl data of the design is imported into a milling machine and a block of maximally 23 x 13 x 13 mm is produced.

Each block is designed individually according to the defect and the desired dimension of the augmentation

Product Specifications

maxgraft® bonebuilder

Art.-No.	Content
PMIa	Individual planning and production of a bone block max. dimensions 23 x 13 x 13 mm
PMIa 2	additional block(s) for this patient

bonebuilder dummy

Art.-No.	Content
32100	Individual 3D printed model of the patient's defect including the planned maxgraft® bonebuilder block(s) for demonstration purposes, material: synthetic filament

www.botiss-bonebuilder.com

collagen & barriers

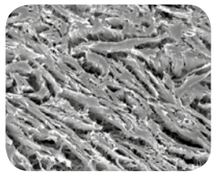
mucoderm®

3D-STABLE SOFT TISSUE (COLLAGEN) GRAFT

mucoderm® is a three-dimensional, acellular collagen matrix derived from porcine dermis and has a high mechanical and volume stability. It is composed of a network of type I and III collagen that closely resembles the human connective tissue structure.

Easy handling properties of mucoderm® after hydration with sterile saline

mucoderm® has a porous, native collagen structure that, after implantation, serves as an excellent scaffold for ingrowing blood vessels and cells, therefore favoring a fast revascularization and tissue integration. Through the collagen production of adhering fibroblasts and gradual degradation of the matrix, mucoderm® will be remodeled in the body's own soft tissue within about six to nine months. Due to a multi-stage, intensive purification process, mucoderm® provides a safe alternative to autologous soft tissue transplants for many indications. Its outstanding mechanical stability facilitates easy application, manipulation and fixation.

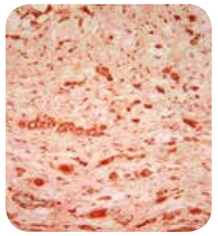


SEM: mucoderm®

After hydration, mucoderm® can be cut into procedure-specific shape

Properties

- Rapid revascularization and integration
- Soft tissue replacement without palatal autograft harvesting
- Complete remodeling into patient's own tissue within six to nine months
- Can be easily applied and fixed
- Can be cut into procedure-specific shape



Immunhistological analysis three months after implantation of mucoderm® in a mouse-model shows excellent vascularization

mucoderm® soft tissue punch

Product Specifications

mucoderm®

Art.-No.	Size	Content
701520	15 × 20 mm	1 matrix
702030	20 × 30 mm	1 matrix
703040	30 × 40 mm	1 matrix
710210	Ø 10 mm	1 punch*

*Also available as bundle (Art.-No. 257110): mucoderm® soft tissue punch and collacone® max

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

- Treatment of gingival recessions
- Soft tissue grafting in combination with GBR/GTR
- Broadening of attached gingiva
- Closure of extraction sockets
- Thickening of the periimplant soft tissue

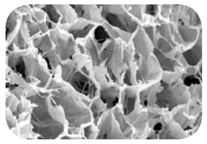
collacone®

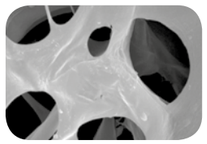
COLLAGEN HEMOSTAT

(CONE)

collacone® is a wet-stable and moldable cone made of natural collagen, developed for application in fresh extraction sockets. collacone® stabilizes the blood coagulum forming in the alveole, therefore naturally helping to stop and control the bleeding.

SEM: collacone®





SEM: collacone® collagen fibers three-dimensional network

The cone was specially formed to fit into the socket, protecting the wound area from food and bacteria. collacone® is resorbed within about two to four weeks.
The healing of the extraction socket starts with the formation of a blood coagulum, followed by the infiltration of fibroblasts and is continuously replaced, first by a provisional matrix and then by bone. The spongy structure of collacone® serves as an ideal matrix for the adhesion of fibroblasts, osteoblasts and thrombocytes, and promotes the ingrowth of blood vessels, thus supporting bony regeneration of the socket. collacone® application is particularly beneficial in hemostatic compromised patients to prevent post-operative bleeding events.

collacone®: wet-stable, fast uptake of blood and stabilization of the blood coagulum

INDICATIONS:

Implantology, Periodontology and CMF Surgery

- Closure of extraction sites
- Biopsy harvesting sites
- Minor oral wounds

Properties

- Resorption within two to four weeks
- Stabilization of blood clot and efficient local hemostasis
- Maintains integrity in the presence of blood and during application
- Wound protection
- Supports wound healing
- Natural collagen cone

Product Specifications

collacone®

Art.-No.	Shape	Dimension	Content
511112		~16 mm height, width on top ~11 mm, bottom width ~7 mm	12 pieces (single sterile units)

Clinical use of collacone®

collafleece®

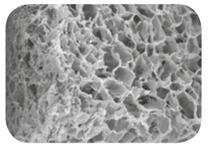
COLLAGEN HEMOSTAT

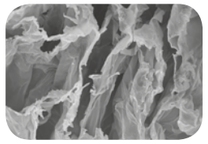
(SPONGE)

collafleece® is a wet-stable sponge made of natural, porcine collagen with a highly efficient hemostatic effect. The sponge-like, porous structure induces a fast blood uptake and stabilizes the blood coagulum, thus supporting natural wound healing.

collafleece® wet-stable and fast uptake of blood

Due to its loose structure, collafleece® is degraded within about two to four weeks.
The specific effects of collafleece® are based on the natural properties of collagen. Platelets recognize special receptors on the collagen fibrils, leading to the formation of a thrombus and the release of different signaling factors. This initiates the coagulation cascade. Due to its hemostatic properties, collafleece® can be applied to protect wounds and to support wound healing (i.e., biopsy or transplant harvesting sites). The fast initiation of hemostasis with collafleece® can be of particular benefit in the treatment of coagulation compromised patients.





SEM picture showing songe-like structure of collafleece®

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

- Minor oral wounds
- Biopsy harvesting sites
- Bone block harvesting sites
- Soft tissue transplant harvesting sites
- Extraction sockets

Properties

- Highly effective hemostat
- Fast resorption by enzymatic degradation within 2-4 weeks
- Easy application
- Maintains integrity in the presence of blood and during application
- Wound protection and support of wound healing

Product Specifications

collafleece®

Art.-No.	Size	Content
512212	20 × 20 mm	12 pieces

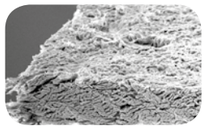
Clinical use of collafleece®

collafleece® in blister pack

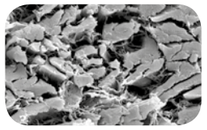
collprotect® membrane

NATIVE **COLLAGEN MEMBRANE**

collprotect® membrane is a native collagen membrane made of porcine dermis. Its multistep cleaning process ensures the removal of all antigenic and non-collagenous components, at the same time preserving its natural collagen structure.

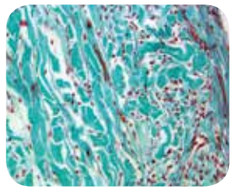


SEM: collprotect® membrane



SEM: collagen fibre network of collprotect® membrane

The unique processing as well as the natural dense but porous collagen structure of collprotect® membrane are the basis for its safe application in dental bone and tissue regeneration. Owing to its natural hemostatic function, the membrane enables early wound stabilization, thus supporting the natural wound healing. The rough surface of collprotect® membrane facilitates a fast integration into the surrounding soft tissue.



Histology six weeks after implantation of collprotect® membrane in a rat model: blood vessels have penetrated the porous structure; collagen fibers are visible, and resorption proceeds without any inflammatory tissue response

INDICATIONS:

Implantology,
Periodontology and
Oral and CMF Surgery

- Horizontal augmentation
- Socket and ridge preservation
- Sinus lift
- Protection and covering of Schneiderian membrane
- Fenestration and dehiscence defects
- Intraosseous defects (1 to 3 walls)
- Furcation defects (class I and II)

Properties

- Membrane with native collagen structure
- No artificial cross-linking
- Naturally rough for cell adhesion and migration
- Natural pores to support angiogenesis
- Controlled degradation
- Natural collagen to support blood clot and wound healing
- Easy application and handling in dry or wet status

Product Specifications

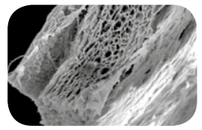
collprotect® membrane

Art.-No.	Size	Content
601520	15 × 20 mm	1 membrane
602030	20 × 30 mm	1 membrane
603040	30 × 40 mm	1 membrane

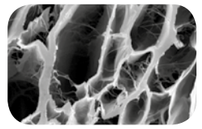
Jason® membrane

NATIVE **PERICARDIUM GBR/GTR MEMBRANE**

Jason® membrane is a particularly thin, native collagen membrane obtained from porcine pericardium that provides a long barrier function. Owing to the unique biomechanical properties of the pericardium, the membrane exhibits a remarkable tear resistance as well as excellent surface adaptation.

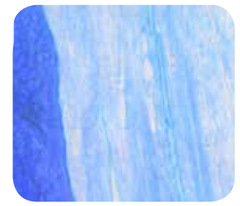


SEM: Jason® membrane



SEM: Jason® membrane collagen structure

Jason® membrane can be easily cut to shape and fixed in place due to its stability. The membrane can be applied dry and wet and is not sticky after hydration.
Thanks to a special manufacturing process, the unique structure and hence the properties of the pericardium are preserved during the intensive cleaning process. Jason® membrane shows a multilayered, honeycomb-like collagen structure with an increased amount of collagen type III and a naturally strong fiber crosslinking, leading to a slowed down degradation. Therefore, Jason® membrane is our recommended choice particularly for large augmentative procedures.



Histology of Jason® membrane 24 weeks after implantation in a rat model shows perfect integration without inflammatory reaction

INDICATIONS:

Implantology,
Periodontology and
Oral and CMF Surgery

- Horizontal and vertical augmentation
- Ridge reconstruction
- Socket and ridge preservation
- Sinus lift
- Protection and covering of Schneiderian membrane
- Fenestration and dehiscence defects
- Intraosseous defects (1 to 3 walls)
- Furcation defects (class I and II)

Properties

- Naturally long barrier function
- Multi-directional strength and tear resistance
- No stickiness after hydration
- Excellent surface adaptation
- Easy manipulation
- Can be applied dry or wet
- Low thickness, no swelling upon hydration

Product Specifications

Jason® membrane

Art.-No.	Size	Content
681520	15 × 20 mm	1 membrane
682030	20 × 30 mm	1 membrane
683040	30 × 40 mm	1 membrane

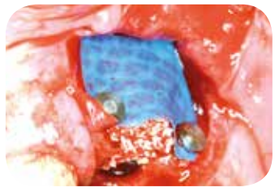
Good handling of Jason® membrane after rehydration

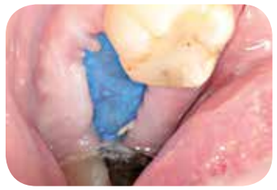
permamem®

HIGH-DENSITY **PTFE BARRIER MEMBRANE**

permamem® is an exceptionally thin, non-resorbable, biologically inert and biocompatible membrane made of high-density polytetrafluoroethylene (PTFE). permamem® maintains its structural integrity both during the initial implantation and over time. Due to its small pore size the membrane acts as an efficient barrier against bacterial and cellular penetration, and may therefore be left in place for open healing in certain indications.

Open healing with permamem® in socket or ridge preservation enables maintenance of the soft tissue architecture and contours since no primary wound closure is required. Due to the missing flap closure, the mucogingival line will not be displaced and the attached/ keratinized gingiva will be preserved.





Clinical use of permamem®

Properties

SEM: surface structure of permamem®

- 100% synthetic PTFE barrier membrane
- Ultra-thin (~0.08 mm)
- Impervious to bacteria due to dense structure
- Easily removable due to minimal tissue ingrowth into the surface structure
- No need for primary soft tissue closure (indication-dependent)
- Easy recovery thanks to blue color
- Rounded edges for minimal tissue trauma
- Easy fixation with sutures or pins
- Either side may be placed towards the defect site

INDICATIONS:

Implantology, Periodontology and Oral and CMF Surgery

- Socket and ridge preservation (open healing)
- Horizontal/vertical ridge augmentation
- Fenestration and dehiscence defects
- Intraosseous defects (1 to 3 walls)
- Furcation defects (class I and II)

Product Specifications

permamem®

Art.-No.	Size	Content
801520	15 x 20 mm	1 membrane
802030	20 x 30 mm	1 membrane
803040	30 x 40 mm	1 membrane

CLINICAL SUCCESS

with the right regeneration concept

The indication matrix **supports** you in choosing the **most suitable treatment concept** through an **intelligent querying** in the navigation bar on the left-hand side.

The more specified the clinical situation, the more precise is the selection of treatment concepts displayed in the right-hand section.

The matrix contains **> 200 clinical cases and videos** as well as **handling tips** and recommendations of internationally recognized **clinical experts**.

Share your case!

INDICATION-MATRIX.COM

titan pin set

FOR **MEMBRANE FIXATION**

During the application of modern GBR and GTR techniques, barrier membranes are indispensable to achieve reliable results.

By fixation of the barrier membrane to the local bone, the application of the particulate bone regeneration material as well as the coverage of the augmentation site by the barrier membrane can be significantly simplified.

Using the one-piece applicator, titan pins can easily be taken up from the dispenser and applied to the fixation site.

Properties

- Utterly comfortable grip-ergonomics for easy uptake of titan pins
- Functional design
- Safe and easy opening by single-hand control
- Suitable for resorbable and non-resorbable membranes

Product Specifications

Art.-No.	Content
440000	titan pin set 1x applicator 1x dispenser for 15 titan pins 1x titanium pins 3 mm (10 pieces)
440310	titan pins, 3 mm, 10 pcs.

All parts are delivered unsterile and need to be sterilized before use.

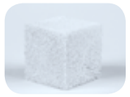
Notes

PRODUCT **CODES**

Bone substitutes

cerabone® granules

Art.-No.	Particle Size	Content
1510	0.5 – 1.0 mm	1 × 0.5 ml
1511	0.5 – 1.0 mm	1 × 1.0 ml
1512	0.5 – 1.0 mm	1 × 2.0 ml
1515	0.5 – 1.0 mm	1 × 5.0 ml
1520	1.0 – 2.0 mm	1 × 0.5 ml
1521	1.0 – 2.0 mm	1 × 1.0 ml
1522	1.0 – 2.0 mm	1 × 2.0 ml
1525	1.0 – 2.0 mm	1 × 5.0 ml



cerabone® Block

Art.-No.	Dimension	Content
1720	20 × 20 × 10 mm	1 × block

maxresorb® granules

Art.-No.	Particle Size	Content
20005	0.5 - 1.0 mm (S)	1 × 0.5 ml
20010	0.5 - 1.0 mm (S)	1 × 1.0 ml
20105	0.8 - 1.5 mm (L)	1 × 0.5 ml
20120	0.8 - 1.5 mm (L)	1 × 2.0 ml

maxresorb® inject

Art.-No.	Unit	Content
22005	1 × syringe	1 × 0.5 ml
22010	1 × syringe	1 × 1.0 ml
22025	1 × syringe	1 × 2.5 ml

collacone® max

Art.-No.	Shape	Dimension	Content
250001		height ~16 mm, width on top ~11 mm, bottom width ~7 mm	1 cone

Bundle:

collacone® max and mucoderm® soft tissue punch

Art.-No.	Content
257110	1 x collacone® max 1 x mucoderm® punch (Ø 10 mm)

maxgraft® cortico

Art.-No.	Dimension	Content
31251	cortical strut, 25 x 10 x 1 mm	1 x
31253	cortical strut, 25 x 10 x 1 mm	3 x 1

maxgraft® bonebuilder

Art.-No.	Content
PMIa	Individual planning and production of a bone transplant max. dimensions 23 × 13 × 13 mm
PMIa 2	additional block(s) for this patient

maxgraft® bonebuilder dummy

Art.-No.	Content
32100	Individual 3D-printed model of the patient's defect and and the plastic bonebuilder block (for demonstration purposes)

maxgraft® bonering 3.3

(Height 10 mm,
recommended for implant diameters from 3.3 - 3.6 mm)

Art.-No.	Dimension	Content
33160	cancellous ring, Ø 6 mm	1 x
33170	cancellous ring, Ø 7 mm	1 x

maxgraft® bonering 4.1

(Height 10 mm,
recommended for implant diameters from 4.1 mm)

Art.-No.	Dimension	Content
33174	cancellous ring, Ø 7 mm	1 x

maxgraft® cancellous granules

Art.-No.	Particle Size	Content
30005	< 2.0 mm	1 x 0.5 ml
30010	< 2.0 mm	1 x 1.0 ml
30020	< 2.0 mm	1 x 2.0 ml
30040	< 2.0 mm	1 x 4.0 ml
30030	2.0-5.0 mm	1 x 3.0 ml

maxgraft® cortico-cancellous granules

Art.-No.	Particle Size	Content
31005	< 2.0 mm	1 x 0.5 ml
31010	< 2.0 mm	1 x 1.0 ml
31020	< 2.0 mm	1 x 2.0 ml
31040	< 2.0 mm	1 x 4.0 ml

maxgraft® blocks

Art.-No.	Dimension	Content
31111	uni-cortical 10 x 10 x 10 mm	1 x block
31112	uni-cortical 20 x 10 x 10 mm	1 x block
32111	cancellous 10 x 10 x 10 mm	1 x block
32112	cancellous 20 x 10 x 10 mm	1 x block

PRODUCT **CODES**

Collagen & barriers

collafleece®

Art.-No.	Size	Content
512212	20 × 20 mm	12 Pieces

collacone®

Art.-No.	Shape	Dimension	Content
511112		~16 mm height, width on top ~11 mm, bottom width ~7 mm	12 pieces (single sterile units)

mucoderm®

Art.-No.	Size	Content
701520	15 × 20 mm	1 matrix
702030	20 × 30 mm	1 matrix
703040	30 × 40 mm	1 matrix
710210	Ø 10 mm	1 punch*

*Also available as bundle (Art.-No. 257110):
mucoderm® soft tissue punch and collacone® max

collprotect® membrane

Art.-No.	Size	Content
601520	15 x 20 mm	1 membrane
602030	20 x 30 mm	1 membrane
603040	30 x 40 mm	1 membrane

Jason® membrane

Art.-No.	Size	Content
681520	15 × 20 mm	1 membrane
682030	20 × 30 mm	1 membrane
683040	30 × 40 mm	1 membrane

permamem®

Art.-No.	Dimension	Content
801520	15 x 20 mm	1 membrane
802030	20 x 30 mm	1 membrane
803040	30 x 40 mm	1 membrane

Instruments

titan pin set

Art.-No.	Product	Content
440000	titan pin set	1 set
440310	titan pins 3 mm	10 pieces

bonering fix

Art.-No.	Product	Content
33010	bonering fix	1 ×

maxgraft® bonering surgical kit

Art.-No.	Content
33000	1 × trephine, 7 mm 1 × trephine, 6 mm 1 × planator, 7 mm 1 × planator, 6 mm 1 × diamond disc, 10 mm 1 × diamond tulip, 3 mm

cortico trimmer

Art.-No.	Product	Content
34000	cortico trimmer	1 x

bone & tissue regeneration

botiss biomaterials

Innovation.
Regeneration.
Aesthetics.

soft tissue

education

hard tissue

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