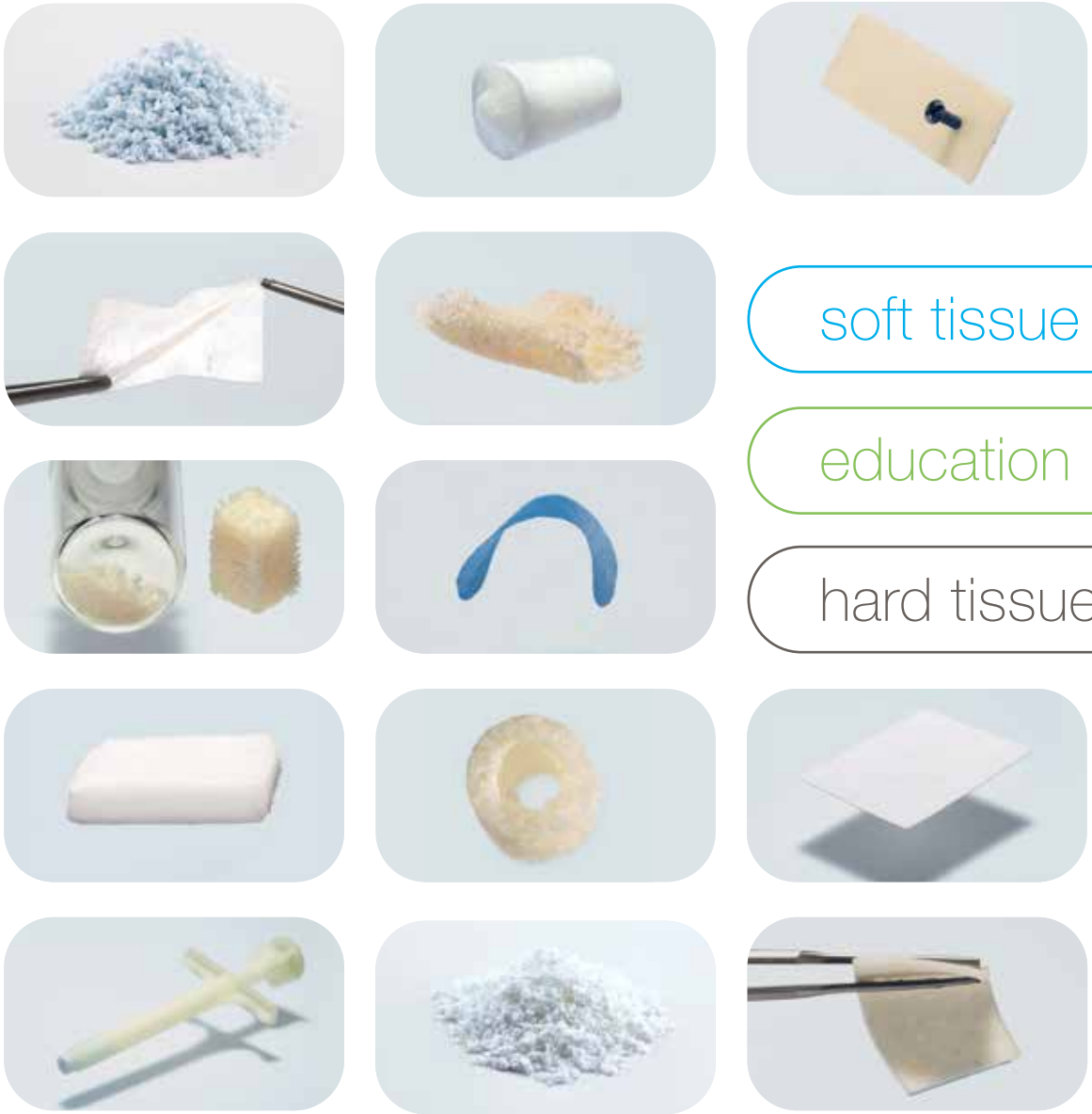
bone & tissue regeneration

botiss biomaterials

Product Catalog

DENTAL BONE AND TISSUE REGENERATION



biomaterials

soft tissue

education

hard tissue

botiss regeneration system

Development / Production / Distribution

cerabone®

100% pure bovine bone mineral

cerabone® **plus**

cerabone® mixed with hyaluronate

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®

Synthetic biphasic calcium phosphate

maxresorb® inject

Synthetic injectable bone paste

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®, cerabone® plus 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 biomaterials is an innovative, clinically oriented medical device/pharmaceutical company headquartered in Germany and further development and production sites in Germany, Austria and England.

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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Oliver Bielenstein
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bone substitutes

cerabone®

cerabone® **plus**

maxgraft®

maxgraft® bonering

maxgraft® cortico

maxgraft® bonebuilder

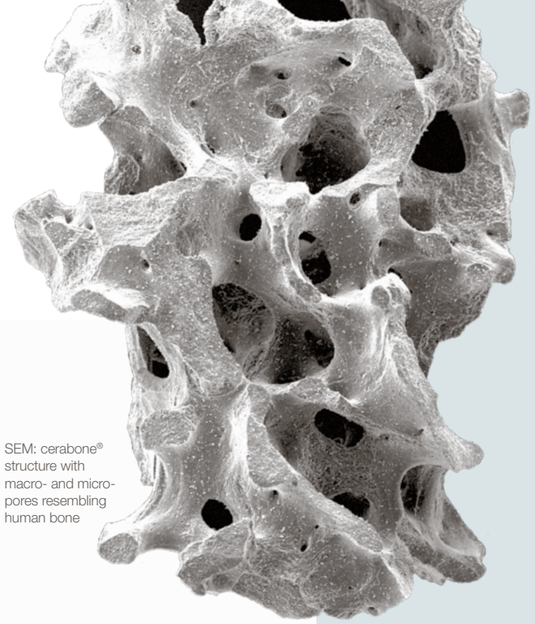
maxresorb®

maxresorb® inject

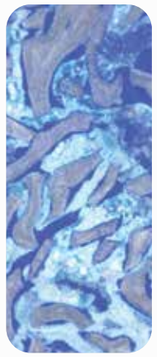
cerabone®

100% PURE BOVINE BONE MINERAL

cerabone® is a 100% pure bone mineral of bovine origin manufactured by a unique 1200°C production process. It has been successfully applied in millions of patients in regenerative dentistry and has been in use for more than 20 years in various medical applications (e.g. craniofacial surgery, oncology and hand and spine surgery).



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



Histology of cerabone® six months after sinus lift: optimal integration and bone regeneration 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 depot for proteins and growth factors.
The sophisticated processing of the bovine bone removes all organic components resulting in a bone mineral with exceptional purity and volume stability. In addition, potential infectious agents such as bacteria, viruses and prions are removed through the high temperature treatment.
Based on its clinical and scientific success, cerabone® is the leading bovine bone grafting material made in Germany.

Properties

- 100% pure natural bone mineral
- Human-like bone structure
- Rough, hydrophilic surface
- Ultimate volume stability
- Easy handling

INDICATIONS:
Implantology,
Periodontology,
Oral- and CMF Surgery

- Sinus lift
- Horizontal and vertical augmentation
- Periodontal bone defects
- Peri-implant defects
- Socket and ridge preservation
- Furcation defects (class I and II)

cerabone®'s 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

1200TRUST.com

NEW
Launched
in 2021

cerabone® **plus**

– WITH **HYALURONATE**

cerabone® plus combines the established **bovine bone grafting** material cerabone® with the well-known properties of hyaluronic acid.

Thanks to the pronounced liquid binding capacities of hyaluronate, cerabone® plus forms a sticky bone material upon hydration that **provides unique application comfort** by allowing both easy uptake and delivery to the site of application.

Properties

Osteoconductivity and volume stability of cerabone®

+ proven properties of hyaluronate
- Sticky and malleable following hydration
- Efficient defect filling and time-saving application
- Easy defect contouring
- Minimized displacement of single granules during application

Application

cerabone® plus requires hydration before use (approx. 0.5 ml saline solution per 1.0 ml cerabone® plus) which can be conveniently performed directly in the blister provided.

plus Handling Tips:

- Remove excess liquid from the defect site prior to application
- Preferably use in self-containing defects
- Immobilize the graft with a barrier membrane

INDICATIONS:
Implantology,
Periodontology, Oral- and CMF Surgery

- Horizontal and vertical augmentation
- Peri-implant defects
- Periodontal intrabony defects
- Socket and ridge preservation
- Sinus lift
- Furcation defects (class I and II)

STICKY BONE OUT OF THE BLISTER

cerabone® plus*

Art.-No.	cerabone® Particle Size	Content
1810	0.5 – 1.0 mm	1 x 0.5 ml
1811	0.5 – 1.0 mm	1 x 1.0 ml
1820	1.0 – 2.0 mm	1 x 0.5 ml
1821	1.0 – 2.0 mm	1 x 1.0 ml

* Please contact your local distributor to check for availability in your country.

hyabone.com

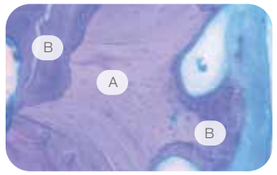
maxgraft®

PROCESSED **HUMAN ALLOGRAFT**

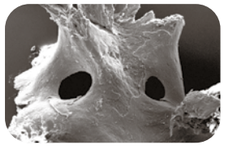
maxgraft® is an allograft bone substitute from human donor bone, processed by the Cells+Tissuebank Austria with a special cleaning process (Allotec® process) and is available in cancellous and corti-co-cancellous form.

Mixability with blood

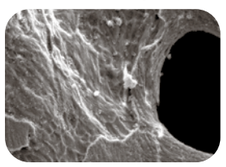
Due to its preserved natural bone structure and collagen content, maxgraft® serves as a scaffold for natural bone regeneration and has the potential of complete remodeling into patients' own bone. For block augmentation maxgraft® blocks are the only real alternative to harvest patients' bone. A second surgical site and the associated risk of infection, donor-site morbidity, postoperative pain, and loss of bone stability can be avoided.



Biopsy of maxgraft® five months after implantation. The allogenic particle (A) can be recognized by the empty cavities of the osteocytes and is strewn with circular re-sorption lacunae. The particle is embedded into newly formed bone matrix (B)



SEM: maxgraft® particle



SEM: maxgraft® mineralized collagen fibers

Properties

- Natural mineralized collagen
- Preserved biomechanical properties
- Osteoconductive properties supporting natural and controlled tissue remodeling
- 5 years shelf life at room temperature

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

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

Structure of maxgraft® block

maxgraft® blocks

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

Living donors
*: organ- and tissue donors
Tissuebank:
Cells+Tissuebank Austria,
Krems, Austria

INDICATIONS:

Implantology,
Periodontology,
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

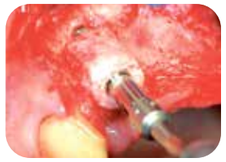
SIMULTANEOUS BONE AUGMENTATION AND IMPLANT PLACEMENT

maxgraft® bonering is a prefabricated cancellous ring from human donor bone. The ring allows implant placement and bone augmentation in one step. Therefore the ring technique requires no second surgical procedure. It shortens treatment time till full restoration about by months and therefore increases patient acceptance.

Fast reconstruction of bone without morbidity through second surgical procedure

The human collagen in the ring is responsible for fast integration, healing and flexibility of the ring. A second surgical site to harvest bone and the associated risk of infection, donor-site morbidity and pain can be avoided. Rehydration is recommended (10 min in saline solution). After implantation maxgraft® bonering is continuously remodeled into patients own bone.

botiss offers a surgical kit that provides all necessary instruments to apply maxgraft® bonering.



The maxgraft® bonering technique enables direct implantation

The height of maxgraft® bonering is adjustable to the defect

Product Specifications

maxgraft® bonering 3.3
(Height 10 mm, recommended for implant diameters from 3.3 - 3.5 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 - 4.5 mm)

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

Art.-No.	Dimension	Content
33000	maxgraft® bonering surgical kit	1 set

Properties

- Purely cancellous
- Predictable size
- 5-6 months healing-/ integration time
- 5 years shelf life at room temperature

maxgraft® bonering surgical kit

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

INDICATIONS:

Implantology and
Oral and CMF Surgery

- Vertical augmentation (3D defects with low-grade horizontal augmentation)
- Single tooth gap
- Edentulous space
- Sinus floor elevation (4 mm – 1 mm residual bone height)

Contraindications:

- Too narrow parallel walled crest
- Less than 1 mm height in the sinus

maxgraft® cortico

SHELL TECHNIQUE

WITH **ALLOGENIC BONE PLATES**

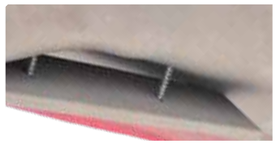
maxgraft® cortico is a prefabricated plate made of processed allogenic bone. Similarly to the autogenous bone, it can be used for the shell technique.

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.

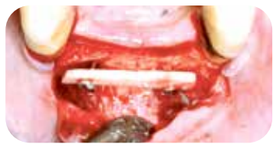
Preparation of the augmentation area

The proper size of the plate is estimated after the elevation of the mucosal flap or preoperatively using a digital planning software. Rehydration is recommended (10 min in saline solution). Using a diamond disc, the plate is then cut extraorally.

Fixation and adaption



To create a fixed compartment, maxgraft® cortico must be positioned immobile in the adequate distance but still in contact with the local bone. Based on the ideal implant position, the strut should be positioned with at least a 1 mm distance to the implant surface when placed laterally. 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

More details on the surgical procedure on:

BOTISS-DENTAL.COM

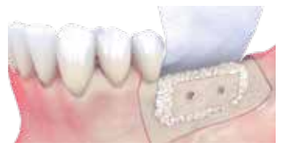
INDICATIONS:

Implantology, Oral and CMF Surgery

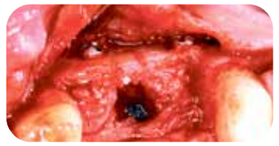
- Vertical augmentation
- Horizontal augmentation
- Complex three-dimensional augmentations
- Single tooth gaps
- Fenestration defects

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 augmentation, stable integration of the plate

Properties

- Established augmentation technique with new material
- Bone augmentation without autograft harvesting
- No donor-site morbidity
- Significant reduction of operation time
- 5 years shelf life at room temperature

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.

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-/ tissue donors

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 block 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

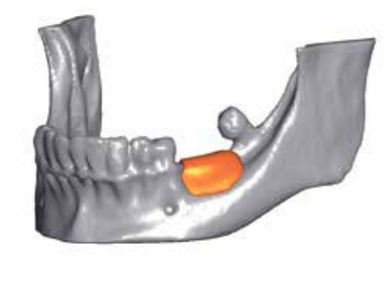
In-house planning

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.

Rehydration is recommended. 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.
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

Based on this model botiss designs a virtual block, which matches the surface structure of the defect and allows stable implant insertion after 5-6 months healing time



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

INDICATIONS:

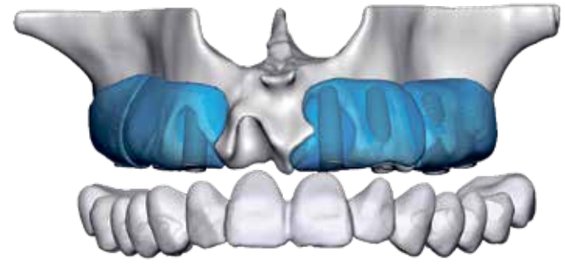
Implantology, Oral and CMF Surgery

- Horizontal and vertical augmentation
- Extensive bone defects

Properties

- Natural mineralized collagen
- Fast graft incorporation and complete remodelling potential
- 5-6 months healing-/ integration time
- 5 years shelf life at room temperature

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 block 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.

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

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

Each individual maxgraft® bonebuilder is milled from a processed allogenic cancellous block under cleanroom conditions, double-packaged and sterilized using gamma irradiation.

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

maxresorb®

SYNTHETIC **BIPHASIC CALCIUM PHOSPHATE**

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

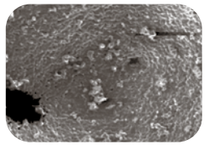
maxresorb® is composed of 60% slow resorbing hydroxyapatite (HA) and 40% fast resorbing beta-tricalcium phosphate (β-TCP). The unique synthesis-based production process ensures a completely homogenous distribution of both phases.

The special composition of maxresorb® promotes fast new bone formation, and ensures a controlled resorption without volume loss of the augmented site. 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.

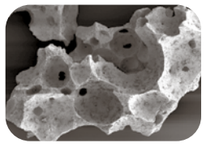
The ideal hydrophilicity of maxresorb® granules ensures excellent handling characteristics when in contact with blood

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,
Oral- and CMF Surgery

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

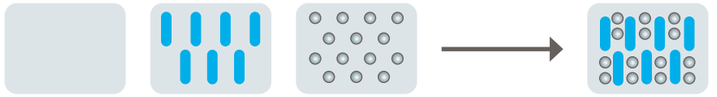
maxresorb® inject

SYNTHETIC **INJECTABLE BONE PASTE**

maxresorb® inject is a unique four-phasic injectable bone graft paste with controlled resorption properties.

The water-based gel contains active HA nanoparticles mixed together with small maxresorb® granules particles (60% HA/40% β-TCP). The HA nanoparticles (size 15–50 nm) provide an extensive surface area for cellular interactions, which lead to rapid resorption, thereby promoting new bone formation. In addition, the maxresorb® granules contained in the gel help maintain the volume over time.
Owing to its specific composition, the viscous properties of maxresorb® inject allow perfect shaping, molding, fitting and complete bonding to the surrounding bone surface of the defect. maxresorb® inject is a non-hardening and ready-to-use bone paste. The syringe design allows direct and easy application to the defect site. Once applied, maxresorb® inject is gradually replaced by new bone.

Unique Regenerative Four-Phase Activity

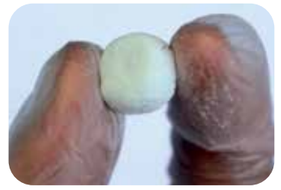


water/gel
carrier-guided vascularization

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 paste

Product Specifications

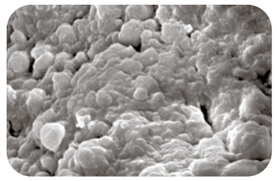
maxresorb® inject

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,
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

collagen & barriers

collacone®

collafleece®

mucoderm®

collprotect® membrane

Jason® membrane

permamem®

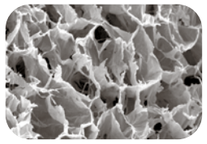
titan pin set

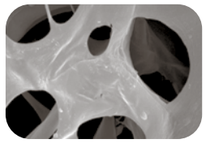
collacone®

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 helps to stop and control bleeding in a natural way.





SEM pictures showing fibre network of collacone®

The cone was specially designed to fit into the socket, protecting the wound area from food and bacteria.
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. Following application, collacone® is resorbed within about two to four weeks.

collacone®: wet stable and fast blood uptake

INDICATIONS:

Implantology,
Periodontology and
CMF Surgery

- Closure of extraction sites
- Biopsy harvesting sites
- Minor oral wounds
- Control and stop of bleeding in extraction sockets or biopsy sites
- Internal sinus lift

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®

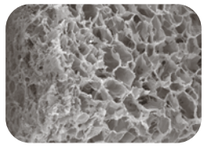
COLLAGEN HEMOSTAT

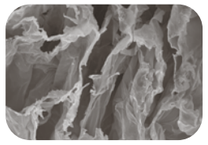
(SPONGE)

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

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.
Due to its loose structure, collafleece® is degraded within about two to four weeks.





SEM pictures showing sponge-like structure of collafleece®

INDICATIONS:

Implantology,
Periodontology,
Oral- and CMF Surgery

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

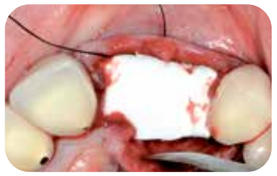
Properties

- 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



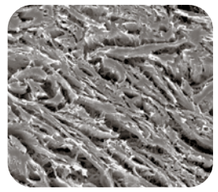
Clinical use of collafleece®

collafleece® in blister pack

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.

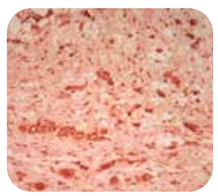


SEM: mucoderm®

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. The intensive multi-step purification process ensures the safety of the final product. mucoderm® offers a valid alternative to autologous soft tissue transplants in a diverse range of soft tissue grafting indications. Its outstanding mechanical stability facilitates easy application, manipulation and fixation.

Easy handling of mucoderm® after hydration with sterile saline

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



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

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

INDICATIONS:

Implantology, Periodontology, 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
- Oral wound coverage after transplant harvesting or tumour surgery

Product Specifications

mucoderm®

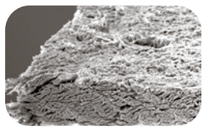
Art.-No.	Size	Content
701520	15 × 20 mm	1 matrix
702030	20 × 30 mm	1 matrix
703040	30 × 40 mm	1 matrix
710210	Ø 10 mm	1 punch

mucoderm® soft tissue punch

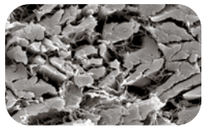
collprotect® membrane

NATIVE **COLLAGEN MEMBRANE**

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

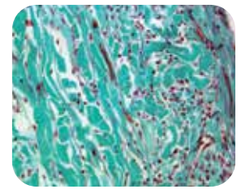


SEM: collprotect® membrane



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. collprotect® membrane is ideal for most indications where an intermediate stability and easy handling are required.



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, 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
- 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

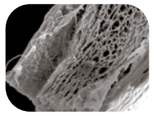
Jason® membrane

NATIVE **PERICARDIUM GBR/GTR MEMBRANE**

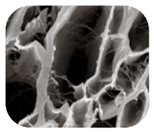
Jason® membrane is a particularly thin, native collagen membrane obtained from porcine pericardium that provides a long barrier function. Owing to the unique biomechanical properties of the pericardium, the membrane exhibits a remarkable tear resistance as well as excellent surface adaptation.

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

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.



SEM: Jason® membrane



SEM: Jason® membrane collagen structure

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

Good handling of Jason® membrane after rehydration

INDICATIONS:

Implantology,
Periodontology,
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)

Product Specifications

Jason® membrane

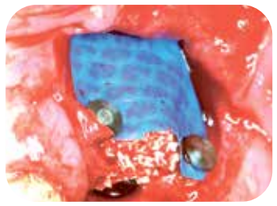
Art.-No.	Size	Content
681520	15 × 20 mm	1 membrane
682030	20 × 30 mm	1 membrane
683040	30 × 40 mm	1 membrane

permamem®

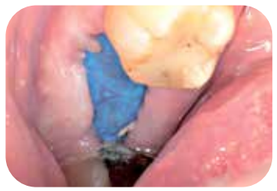
HIGH-DENSITY **PTFE BARRIER MEMBRANE**

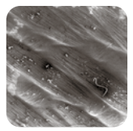
permamem® is an exceptionally thin, non-resorbable, biologically inert and biocompatible membrane made of high-density polytetrafluoroethylene (PTFE). permamem® maintains its structural integrity both during the initial implantation and over time. Due to its dense structure the membrane acts as an efficient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

The use of permamem® is especially recommended for regeneration fo bone defects outside the ridge contour, because it offers a higher stability and superior space-maintaining properties compared to resorbable (collagen) membranes. In addition, 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®





SEM: surface structure of permamem®

Properties

- 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

INDICATIONS:

permamem® is a temporarily implantable membrane for use as a space-creating barrier in GBR and GTR.

Implantology, Periodontology,
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

titan pin set

FOR **MEMBRANE FIXATION**

During the application of modern GBR 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 10x titan pins 3 mm
440310	10x titan pins, 3 mm

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

CLINICAL SUCCESS

with the right regeneration concept

360°

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 **> 250 clinical cases and videos** as well as **handling tips** and recommendations of internationally recognized **clinical experts**.

Share your case!

INDICATION-MATRIX.COM

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® **plus***

Art.-No.	cerabone® Particle Size	Content
1810	0.5 – 1.0 mm	1 x 0.5 ml
1811	0.5 – 1.0 mm	1 x 1.0 ml
1820	1.0 – 2.0 mm	1 x 0.5 ml
1821	1.0 – 2.0 mm	1 x 1.0 ml

* Please contact your local distributor to check for availability in your country.

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

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

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 10 x 10 x 20 mm	1 x block
32111	cancellous 10 x 10 x 10 mm	1 x block
32112	cancellous 10 x 10 x 20 mm	1 x block

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 - 3.5 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 - 4.5 mm)

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

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

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 x 20 mm	1 membrane
682030	20 x 30 mm	1 membrane
683040	30 x 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

cortico trimmer

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

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

titan pin set

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

bone & tissue regeneration

botiss biomaterials

Innovation.
Regeneration.
Aesthetics.

soft tissue

education

hard tissue

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