

# Product Catalog

## DENTAL BONE AND TISSUE REGENERATION



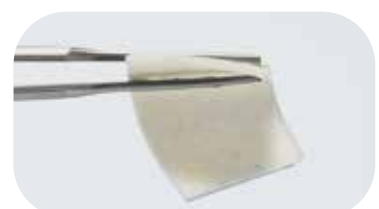
soft tissue



education

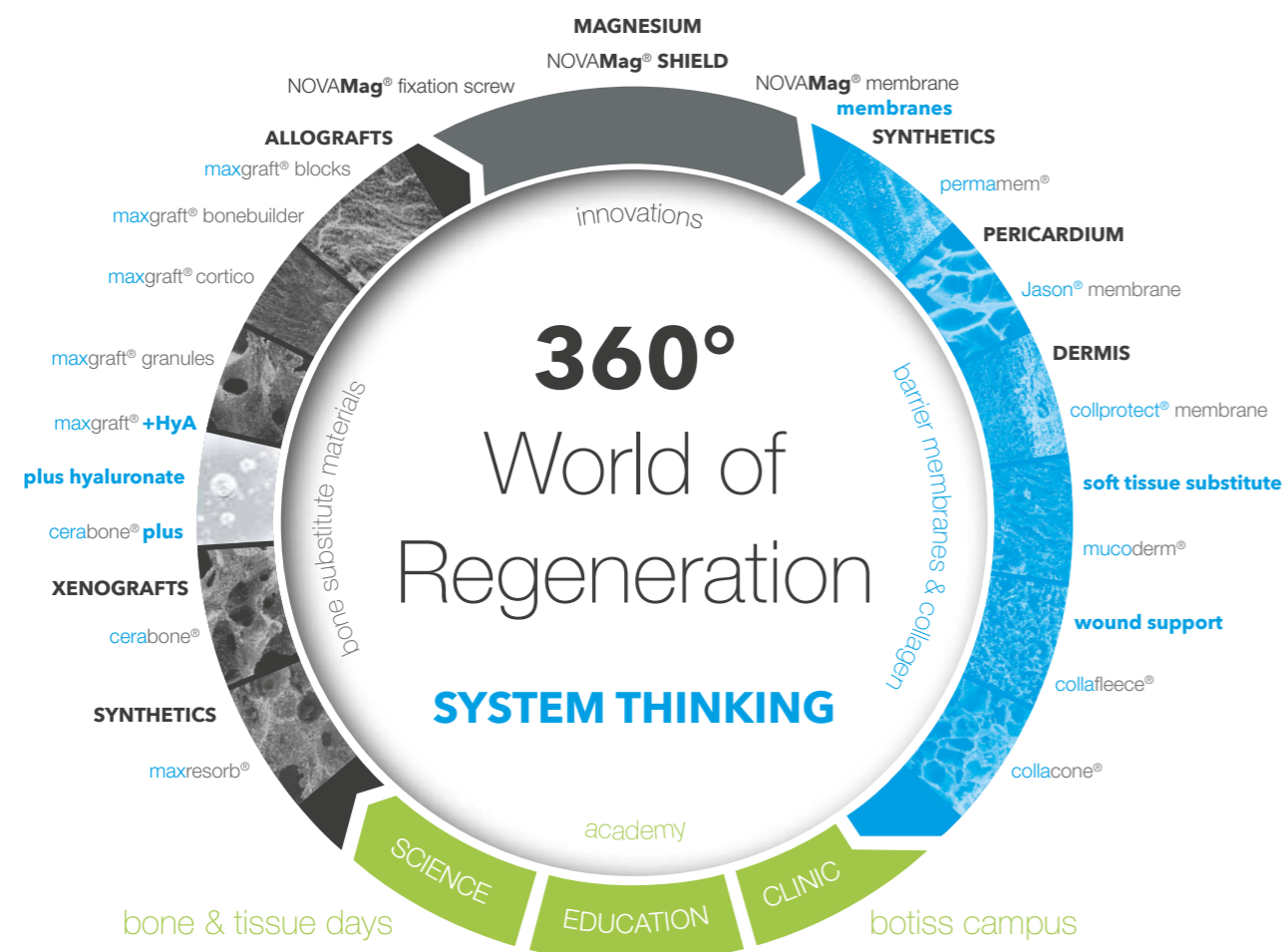


hard tissue



biomaterials

# botiss regeneration system



## Development & Manufacturing

maxresorb®	cerabone®	cerabone® plus	maxgraft® +HyA	maxgraft®	maxgraft® cortico	maxgraft® bonering	maxgraft® bonebuilder
Synthetic biphasic calcium phosphate	100% pure bovine bone mineral	cerabone® mixed with hyaluronate	maxgraft® mixed with hyaluronate	Processed allogenic bone graft	Processed allogenic bone plate	Processed allogenic bone ring	Patient matched allogenic bone implant
NOVAMag® fixation screw	NOVAMag® SHIELD	NOVAMag® membrane	permamem®	Jason® membrane	collprotect® membrane	mucoderm®	collafleece® / collacone®
Resorbable magnesium screw	Resorbable magnesium shield	Resorbable magnesium membrane	High-density PTFE barrier membrane	Native pericardium GBR / GTR membrane	Native collagen membrane	3D-stable soft tissue graft (Collagen)	Collagen hemostat (Cone / Sponge)



## 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.

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.

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.

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.

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.

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.

We substantially invest in research and education. Unique innovations, such as mucoderm®, cerabone® plus and maxgraft® bonebuilder, the concept of high-

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# bone substitutes

cera<sup>®</sup>bone

cera<sup>®</sup>bone **plus**

max<sup>®</sup>graft

max<sup>®</sup>graft **+HyA**

max<sup>®</sup>graft bonering

max<sup>®</sup>graft cortico

max<sup>®</sup>graft bonebuilder

max<sup>®</sup>resorb

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 x 0.5 ml
1511	0.5 – 1.0 mm	1 x 1.0 ml
1512	0.5 – 1.0 mm	1 x 2.0 ml
1515	0.5 – 1.0 mm	1 x 5.0 ml
1520	1.0 – 2.0 mm	1 x 0.5 ml
1521	1.0 – 2.0 mm	1 x 1.0 ml
1522	1.0 – 2.0 mm	1 x 2.0 ml
1525	1.0 – 2.0 mm	1 x 5.0 ml

Accessory: **botiss** grafter

Art.-No.	Content
550001	1 x botiss grafter

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 or patient blood per 1 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

Accessory: **botiss** grafter

Art.-No.	Content
550001	1 x botiss grafter

maxgraft®

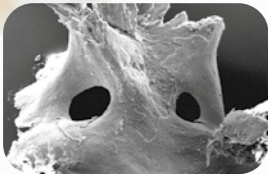
PROCESSED **HUMAN ALLOGRAFT**

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 cortico-cancellous form.

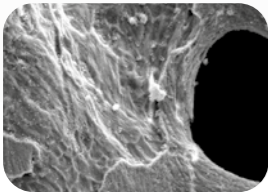
Due to its preserved natural bone structure and collagen content, maxgraft® serves as a scaffold for natural bone regeneration and has the potential of complete remodeling into patients' own bone. For block augmentation maxgraft® blocks are the only real alternative to harvest patients' bone. A second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



Mixability with blood



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

Accessory: **botiss** grafter

Art.No.	Content
550001	1 x botiss grafter

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

\* Items with particle size 0.25-1.0 mm and 1.0-2.0 mm are available on request  
\*\* Post-mortem donors

Manufacturer responsible market authorization: Cells + Tissuebank Austria, Krems, Austria



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 resorption lacunae. The particle is embedded into newly formed bone matrix (B)

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® **+HyA**

– MIT **HYALURONAT**

maxgraft® **+HyA** expands the maxgraft® portfolio by combining the well-established maxgraft® granules with hyaluronate – a unique composition that is characterized by a sticky and moldable consistency upon hydration.

This innovative formulation improves the handling properties and simplifies the application and adaptation of the graft to defect areas. The availability of granules in various sizes (fine, small, and large) and types (cancellous/cortico-cancellous) broadens the range of clinical applications, allowing for customized solutions tailored to specific bone regeneration needs and user preferences. The possibility of administration with a conventional syringe (fine granules) further simplifies the process, allowing for precise and efficient placement even in challenging defect areas.

Properties

- Sticky allograft after hydration
- Easy handling and efficient application to the defect
- Cortico-cancellous variant with a high cortical content (70%)
- Simplified application with a syringe in small defects (XS variant)

Application

maxgraft® **+HyA** must be hydrated before use (~0.8 ml of saline solution or patient blood per 1.0 ml of maxgraft® **+HyA**). For more detailed hydration instructions, please refer to the instructions for use.

Tips:

- Measure the liquid volume using a 1 ml syringe.
- Add the liquid drop by drop, aiming for a slightly dry consistency.



INDICATIONS:

Implantology,  
Periodontology,  
Oral- and CMF Surgery

- 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

Product Specifications

maxgraft® <b>+HyA</b> - cancellous granules		
Art.No.	maxgraft® Particle Size	Content
38005S	0.25 - 1.0 mm	1 x 0.5 ml
38010S	0.25 - 1.0 mm	1 x 1 ml
38020S	0.25 - 1.0 mm	1 x 2 ml
38005L	1.0 - 2.0 mm	1 x 0.5 ml
38010L	1.0 - 2.0 mm	1 x 1 ml
38020L	1.0 - 2.0 mm	1 x 2 ml

maxgraft® <b>+HyA</b> - cortico-cancellous granules (ca. 70% cortical)		
Art.No.	maxgraft® Particle Size	Content
34005S	0.25 - 1.0 mm*	1 x 0.5 ml
34010S	0.25 - 1.0 mm*	1 x 1 ml
34020S	0.25 - 1.0 mm*	1 x 2 ml

maxgraft® <b>+HyA</b> - fine cortico-cancellous granules		
Art.No.	maxgraft® Particle Size	Content
34005XS	<0.25 mm*	1 x 0.5 ml
34010XS	<0.25 mm*	1 x 1 ml

\* Post-mortem donors  
Manufacturer responsible market authorization:  
Cells + Tissuebank Austria, Krems, Austria

# 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

### INDICATIONS:

Implantology, Oral and CMF Surgery

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

More details on the surgical procedure on:

**BOTISS.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 particulate 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 particulate 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
* Post-mortem 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 transferred 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:

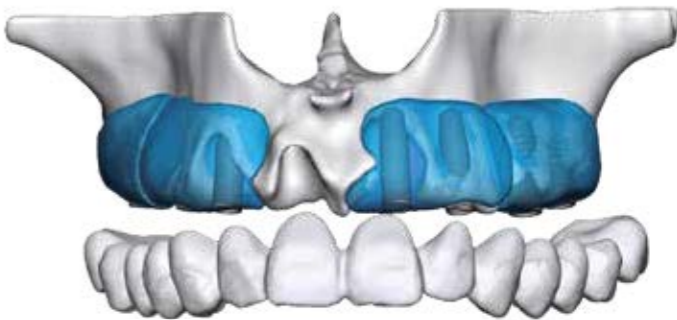
Implantology, Oral and CMF Surgery

- 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](http://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
PM1a	Individual planning and production of a bone block max. dimensions 23 x 13 x 13 mm
PM1a 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

maxresorb<sup>®</sup>

SYNTHETIC **BIPHASIC**  
**CALCIUM PHOSPHATE**



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

maxresorb<sup>®</sup> 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.

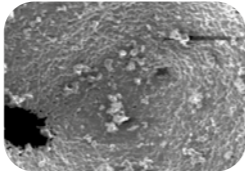
The special composition of maxresorb<sup>®</sup> promotes fast new bone formation, and ensures a controlled resorption without volume loss of the augmented site. The osteoconductivity of maxresorb<sup>®</sup> is based on a matrix of interconnecting pores, a very high overall porosity of approx. 80% as 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<sup>®</sup> is a reliable alternative to bovine bone for many indications.

Properties

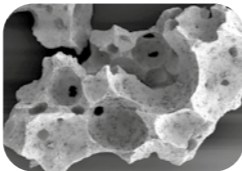
- 60% HA/40% β-TCP
- Osteoconductive
- Ultra-high interconnected porosity
- Volume and mechanical graft stability
- Safe, reliable and sterile
- Very rough and hydrophilic surface
- 100% synthetic and resorbable



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



SEM picture showing maxresorb<sup>®</sup> nano-structured surface



SEM picture showing porosity of maxresorb<sup>®</sup> particle

INDICATIONS:

Implantology,  
Periodontology,  
Oral- and CMF Surgery

Product Specifications

maxresorb<sup>®</sup> granules

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

Accessory: botiss grafter

Art.-No.	Content
550001	1 x botiss grafter

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



Check out the botiss services

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# collagen & barriers

collacone<sup>®</sup>

collafleece<sup>®</sup>

muco<sup>®</sup>derm

collprotect<sup>®</sup> membrane

Jason<sup>®</sup> membrane

perma<sup>®</sup>mem

NOVA**Mag**<sup>®</sup> membrane

NOVA**Mag**<sup>®</sup> **SHIELD**

NOVA**Mag**<sup>®</sup> fixation screw

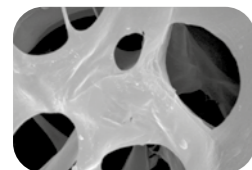
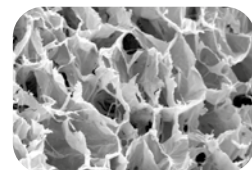
titan pin set

# 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

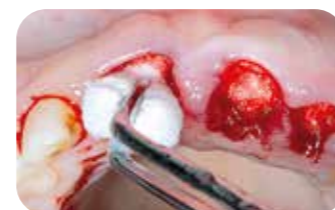
### Properties

- 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)**

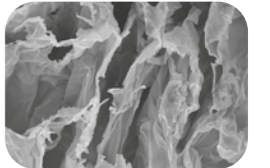
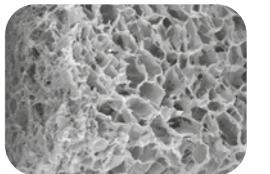


collafleece® is a wet-stable sponge made of natural, porcine collagen with a highly efficient hemostatic effect. The sponge-like, porous structure induces a fast blood uptake and stabilizes the blood coagulum, thus supporting natural wound healing.



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 x 20 mm	12 pieces



Clinical use of collafleece®



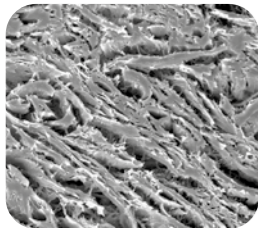
collafleece® in blister pack

# mucoderm<sup>®</sup>

## 3D-STABLE SOFT TISSUE (COLLAGEN) GRAFT

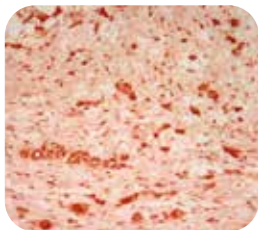


mucoderm<sup>®</sup> is a three-dimensional, acellular collagen matrix derived from porcine dermis and has a high mechanical and volume stability. It is composed of a network of type I and III collagen that closely resembles the human connective tissue structure.



SEM: mucoderm<sup>®</sup>

mucoderm<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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.



Immunohistologic analysis three months after implantation of mucoderm<sup>®</sup> 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

### Product Specifications

mucoderm<sup>®</sup>

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

### 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



mucoderm<sup>®</sup> soft tissue punch



Easy handling of mucoderm<sup>®</sup> after hydration with sterile saline



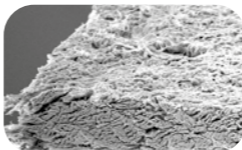
After hydration, mucoderm<sup>®</sup> can be cut into procedure-specific shape

# collprotect<sup>®</sup> membrane

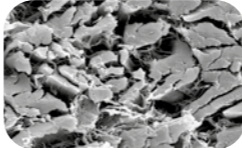
## NATIVE **COLLAGEN MEMBRANE**



collprotect<sup>®</sup> 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.

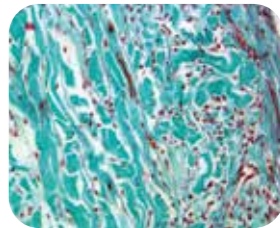


SEM: collprotect<sup>®</sup> membrane



SEM: collagen fibre network of collprotect<sup>®</sup> membrane

The unique processing as well as the natural dense but porous collagen structure of collprotect<sup>®</sup> 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<sup>®</sup> membrane facilitates a fast integration into the surrounding soft tissue. collprotect<sup>®</sup> membrane is ideal for most indications where an intermediate stability and easy handling are required.



Histology six weeks after implantation of collprotect<sup>®</sup> 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<sup>®</sup> 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**



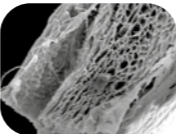
Jason® membrane is a particularly thin, native collagen membrane obtained from porcine pericardium that provides a long barrier function. Owing to the unique bio-mechanical properties of the pericardium, the membrane exhibits a remarkable tear resistance as well as excellent surface adaptation.



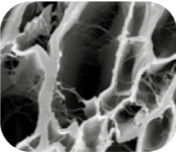
Histology of Jason® membrane 24 weeks after implantation in a rat model shows perfect integration without inflammatory reaction

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

### 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 x 20 mm	1 membrane
682030	20 x 30 mm	1 membrane
683040	30 x 40 mm	1 membrane



Good handling of Jason® membrane after rehydration

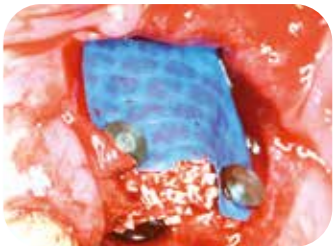
# permamem®

HIGH-DENSITY **PTFE BARRIER MEMBRANE**

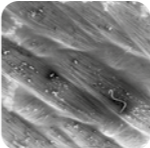


permamem® is an exceptionally thin, non-resorbable, biologically inert and biocompatible membrane made of high-density polytetrafluoroethylene (PTFE). permamem® maintains its structural integrity both during the initial implantation and over time. Due to its dense structure the membrane acts as an efficient 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 of 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



# NOVAMag<sup>®</sup> product line

Magnesium is a biodegradable metal with a long history of use as a medical material, yet the NOVAMag<sup>®</sup> product line is the first to utilize the material for regenerative dentistry. Magnesium metal is ideal for regenerative surgeries. It provides the mechanical stability of a metallic structure, whilst offering reliable degradation and resorption.

Products made of magnesium metal do not need to be extracted, resulting in fewer surgeries, reduced invasiveness and less chair time. These factors make the NOVAMag<sup>®</sup> membrane and the NOVAMag<sup>®</sup> fixation screw ideally suited for regenerative surgeries.

## RESORBABLE MAGNESIUM

# NOVAMag<sup>®</sup> membrane

The magnesium membrane is strong but ductile. It can be trimmed to size and shaped for treating individual bone defects. Because the NOVAMag<sup>®</sup> membrane completely resorbs within a few months after implantation, a second surgical intervention to remove the membrane is not necessary.

Due to the inherent properties of magnesium metal, the membrane is mechanically strong yet degradable. It is ideal for protecting bone defect voids during the critical healing phase and maintaining the positioning of bone augmentation materials.

### PROPERTIES

- Pure magnesium metal, 100% synthetic
- Mechanically strong and stable
- Complete degradation within several weeks
- Release of bioactive Mg<sup>2+</sup> ions
- Very thin (140±20 µm)

#### Product Specifications

Art.-No.	Size	Content
721520	S 15 x 20 mm	1 membrane
722030	M 20 x 30 mm	1 membrane
723040	L 30 x 40 mm	1 membrane

### INDICATIONS

- Surgical bone defects and bone wall defects
- Sinus floor augmentation
- Ridge augmentation or reconstruction for prosthetic treatment
- Treatment of fenestration defects
- Periodontal bone defects (one to three-wall defects, furcation defects)
- After apicectomy, cystectomy, resection of retained teeth and resection of other bone lesions
- Extraction sockets after tooth extractions
- GBR in conjunction with immediate or delayed implant placement

# NOVAMag<sup>®</sup> fixation screw

Made from a completely resorbable, biodegradable, magnesium metal alloy, NOVAMag<sup>®</sup> fixation screws are ideal for securing barrier membranes, bone grafts and bone augmenting material.

The screws provide support during the critical healing period and are completely resorbed within approximately one year. Because the fixation screws are resorbable, remnants of the screws pose no risk during dental implant placement and do not need to be removed. They integrate within the bone as they degrade, with new bone forming up to the surface of the screws. The NOVAMag<sup>®</sup> fixation screws come in five sizes to fit the needs in all indications.

### PROPERTIES

- Magnesium metal alloy, 100% synthetic
- Complete degradation within approximately 1 year
- Superior mechanical properties compared to other resorbable fixation systems
- 5 sizes to fit all needs

#### Product Specifications

Art.-No.	Size	Content
74100402	XS 1.0 x 3.5 mm	2/box
74140701	S 1.4 x 7.0 mm	1/box
74140901	M 1.4 x 9.0 mm	1/box
74141101	L 1.4 x 11.0 mm	1/box
74141301	XL 1.4 x 13.0 mm	1/box

### INDICATIONS

- The NOVAMag<sup>®</sup> fixation screw is indicated for the fixation of barrier membranes and/or bone grafts in the support of GTR / GBR:
- in case of surgical bone defects and bone wall defects
  - in the context of sinus floor augmentation
  - in the context of ridge augmentation or reconstruction for prosthetic treatment
  - in the context of a treatment of fenestration defects
  - in the context of maxillofacial surgeries (the fixation system is not to be used in conjunction with a plate system)
  - in case of periodontal bone defects (one to three-wall defects, furcation defects)
  - after apicectomy, cystectomy, resection of retained teeth and resection of other bone lesions
  - in case of augmentation in conjunction with immediate or delayed implant placement.

# NOVAMag<sup>®</sup> connector

To insert NOVAMag<sup>®</sup> fixation screws correctly, the NOVAMag<sup>®</sup> connector is needed. It is a single-patient-use device made of PEEK, designed to enable safe insertion of NOVAMAG<sup>®</sup> fixations screws by transferring the necessary insertion torque.

#### Product Specifications

Product	Amount	Art. No.
NOVAMag <sup>®</sup> connector	1/ box	74000

# NOVAMag® SHIELD

## TO MAINTAIN THE NATURAL BONE CONTOUR

The fully resorbable NOVAMag® SHIELD introduces a pioneering solution for managing buccal and palatal wall defects.

Utilizing a flapless approach without the need for membrane fixation, NOVAMag® SHIELD can be positioned between the soft tissue and bone, thus providing support to the bone graft material while reinforcing the structural integrity of the augmented site.

### CLINICAL CASE by Dr. Erick Mota (DOM)



The approach reduces the need for extensive bone grafting and promotes the preservation of the natural bone contour. By reconstructing alveolar walls, NOVAMag® SHIELD minimizes the risk of resorption in the buccal and palatal plates, ultimately enhancing the success of implant procedures.

#### ADVANTAGES

- Optimal support of the socket due to high mechanical stability
- Minimally invasive, no flap preparation or incisions needed
- Easy application, no fixation needed
- No removal due to complete resorption
- Mg<sup>2+</sup> ions support bone formation and mineralization

#### PROPERTIES

- Produced from pure magnesium
- Completely resorbable
- Mechanically strong and volume stable
- No removal surgery necessary resulting in fewer surgical interventions
- Less chair time

#### INDICATIONS

The NOVAMag® SHIELD is indicated for GTR / GBR:

- in case of surgical bone defects and bone wall defects
- in the context of ridge preservation in extraction sockets after tooth extractions
- in case of GBR in conjunction with immediate or delayed implant placement

#### Product Specifications

Art.-No.	Size	Content
721020	XS 10 x 20 mm	1 SHIELD

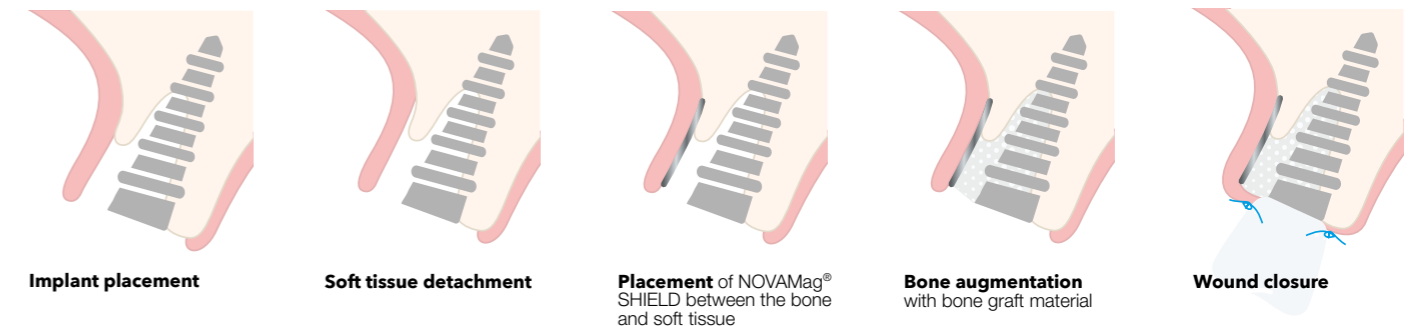
## The SHIELD Technique

Inadequate bone support in the buccal and/or palatal site after tooth extraction poses a significant risk to long-term stability of dental implants, necessitating effective strategies to manage these defects.

The Shield Technique in conjunction with the fully resorbable NOVAMag® SHIELD offers a pioneering approach to manage buccal and palatal wall defects.

NOVAMag® SHIELD was particularly designed for application in the Shield Technique allowing an easy and efficient application.

### Step-by-step procedure: Immediate implant placement



### Complete resorption FOR REDUCED INVASIVENESS

**Bone Preservation:** Maintaining the existing bone structure, reducing the need for extensive bone grafting and complex augmentation procedures.

**Simplified Procedure:** By eliminating the need for additional incisions, fixation, and membrane removal, the surgical process is simplified, making it less invasive for the patient and more efficient for the clinician.

**Setting the stage for implant success:** The risk of bone resorption is reduced leading to long-term stability and aesthetics.

# 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.



# VITAMIN D FOR **DENTAL TREATMENT SUCCESS**

## IMPLANTOLOGY PERIODONTOLOGY SURGERY

With the solutions from botiss**CARE**, you integrate a toolbox for testing, quantitative analysis and optimization of the vitamin D balance of your patients into your treatment process - immediately and chairside in your practice.

### Simple implementation

Can be **efficiently integrated** into the practice workflow

**Just a few drops** of blood from the fingertip

**Reliable results** after just 15 minutes

Intensive **support** by **experts**

## ALL-IN-ONE-SYSTEM

botiss**CARE Rapi-D™**: quantitative vitamin D test for the determination of total 25-hydroxyvitamin D in human whole blood



botiss**CARE Cube Reader**:  
in-vitro diagnostic device for read-out and quantification of the results



botiss**CARE**  
empower **prevention**

RELIABLE  
**15** MIN  
TEST RESULTS




See how it works

**dental prevention** re-considered


PRODUCT CODES

Bone substitutes




cerabone® granules

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



maxgraft® +HyA - cancellous granules


Art.-No.	maxgraft® Particle Size	Content
38005S	0.25 - 1.0 mm	1 x 0.5 ml
38010S	0.25 - 1.0 mm	1 x 1 ml
38020S	0.25 - 1.0 mm	1 x 2 ml
38005L	1.0 - 2.0 mm	1 x 0.5 ml
38010L	1.0 - 2.0 mm	1 x 1 ml
38020L	1.0 - 2.0 mm	1 x 2 ml

maxgraft® +HyA - cortico-cancellous granules  
(ca. 70% cortical)

Art.-No.	maxgraft® Particle Size	Content
34005S	0.25 - 1.0 mm*	1 x 0.5 ml
34010S	0.25 - 1.0 mm*	1 x 1 ml
34020S	0.25 - 1.0 mm*	1 x 2 ml

maxgraft® +HyA - fine cortico-cancellous granules

Art.-No.	maxgraft® Particle Size	Content
34005XS	<0.25 mm*	1 x 0.5 ml
34010XS	<0.25 mm*	1 x 1 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

\* Post-mortem donors  
Registration number maxgraft®: PEI.H.11671.01.1

Manufacturer Responsible for Releasing the Product for Market Authorization: Cells + Tissuebank Austria, Krems, Austria




maxresorb® granules

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

Accessory for all granules incl. Hya versions:

botiss grafter

Art.-No.	Content
550001	1 x botiss grafter




Details on botiss.com




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 x 13 x 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 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 x 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 x 20 mm	1 matrix
702030	20 x 30 mm	1 matrix
703040	30 x 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

NOVAMag® product line




NOVAMag® membrane

Art.-No.	Size	Content
721520	S 15 x 20 mm	1 membrane
722030	M 20 x 30 mm	1 membrane
723040	L 30 x 40 mm	1 membrane



NOVAMag® SHIELD

Art.-No.	Size	Content
721020	XS 10 x 20 mm	1 SHIELD



NOVAMag® fixation screw


Art.-No.	Size	Content
74100402	XS 1.0 x 3.5 mm	2/box
74140701	S 1.4 x 7.0 mm	1/box
74140901	M 1.4 x 9.0 mm	1/box
74141101	L 1.4 x 11.0 mm	1/box
74141301	XL 1.4 x 13.0 mm	1/box

Instruments




cortico trimmer

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



maxgraft® bonering surgical kit

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



titan pin set

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

NOVAMag® instruments  
Details on the instruments on  
**BOTISS.COM**



bone & tissue  
regeneration

botiss  
biomaterials

# Innovation. Regeneration. Aesthetics.

soft tissue

education

hard tissue

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