Product Catalog

DENTAL BONE AND TISSUE REGENERATION

soft tissue

education

hard tissue
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.

Dr. Drazen Tadic
dt@botiss.com
Oliver Bielenstein
ob@botiss.com
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).

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® granules

<table>
<thead>
<tr>
<th>Art. No.</th>
<th>Particle Size</th>
<th>Content</th>
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<tbody>
<tr>
<td>1510</td>
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<td>1 x 0.5 ml</td>
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<tr>
<td>1511</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 1.0 ml</td>
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<tr>
<td>1512</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 2.0 ml</td>
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<tr>
<td>1515</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 5.0 ml</td>
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<tr>
<td>1520</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>1521</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 1.0 ml</td>
</tr>
<tr>
<td>1522</td>
<td>1.0 – 2.0 mm</td>
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</tr>
<tr>
<td>1525</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 5.0 ml</td>
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</tbody>
</table>

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

STICKY BONE OUT OF THE BLISTER

1200TRUST.com

botiss.com

NEW
Launched in 2021

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®

cerabone® plus*

<table>
<thead>
<tr>
<th>Art. No.</th>
<th>cerabone® stalk Particle Size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>1811</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 1.0 ml</td>
</tr>
<tr>
<td>1812</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 2.0 ml</td>
</tr>
<tr>
<td>1815</td>
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</tr>
<tr>
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</tr>
<tr>
<td>1825</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 5.0 ml</td>
</tr>
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</table>

* Please contact your local distributor to check for availability in your country.
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 (Alotec® 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’ own bone. A second surgical site and the associated risk of infection, donor-site morbidity, postoperative pain, and loss of bone stability can be avoided.

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 5.0 ml
30010 | < 2.0 mm | 1 x 1.0 ml
30040 | < 2.0 mm | 1 x 0.4 ml

maxgraft® cortico-cancellous granules
Art.-No. | Particle Size | Content
---|---|---
31005 | < 2.0 mm | 1 x 5.0 ml
31010 | < 2.0 mm | 1 x 1.0 ml
31020 | < 2.0 mm | 1 x 0.2 ml
31040 | < 2.0 mm | 1 x 0.4 ml

maxgraft® blocks
Art.-No. | Dimension | Content
---|---|---
31111 | un-unil. 10 x 10 x 10 mm | 1 x block®
31112 | un-unil. 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

Structure of maxgraft® block

Mixability with blood

SEM: maxgraft® mineralized

SEM: maxgraft® particle

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 5-6 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.

Product Specifications
maxgraft® bonering 3.3 (Height 3.3 mm, recommended for implant diameters from 3.3 – 3.5 mm)
Art.-No. | Dimension | Content
---|---|---
33170 | cancellous ring Ø 6 mm | 1 x
33171 | cancellous ring Ø 7 mm | 1 x

maxgraft® bonering 4.1 (Height 4.1 mm, recommended for implant diameters from 4.1 – 4.5 mm)
Art.-No. | Dimension | Content
---|---|---
33174 | cancellous ring Ø 7 mm | 1 x

maxgraft® bonering surgical kit
Art.-No. | Dimension | Content
---|---|---
33200 | maxgraft® bonering surgical kit | 1 set

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

INDICATIONS:
Implantology, Periodontology, Oral- and CMF Surgery

The maxgraft® bonering technique enables direct implantation

maxgraft® bonering is adjustable to the defect

The height of maxgraft® bonering is adjustable to the defect

INDICATIONS:
Implantology and Oral and CMF Surgery
• Vertical augmentation
• Sinus floor elevation
• 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.

INDICATIONS:
Implantology, Oral and CMF Surgery
- Vertical augmentation
- Horizontal augmentation
- Complex three-dimensional augmentations
- Single tooth gaps
- Fenestration defects

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, colprotect® membrane) and a tension-free and saliva-proof closure must be applied.

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.

Six months after augmentation, stable integration of the plate

INDICATIONS:
Implantology, Oral and CMF Surgery
- Vertical augmentation
- Horizontal augmentation
- Complex three-dimensional augmentations
- Single tooth gaps
- Fenestration defects

Product Specifications
maxgraft® cortico

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Dimension</th>
<th>Content</th>
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<tbody>
<tr>
<td>31551</td>
<td>cortical strut, 25 x 10 x 1 mm²</td>
<td>1 x</td>
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<tr>
<td>31552</td>
<td>cortical strut, 25 x 10 x 1 mm²</td>
<td>3 x 1</td>
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*: organ-/ tissue donors

cortico trimmer

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>34420</td>
<td>cortico trimmer</td>
</tr>
</tbody>
</table>

More details on the surgical procedure on:
BOTISS.COM
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
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.

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

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.

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 the 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.

**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

**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.

**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

**INDICATIONS:**
- Implantology, Periodontology, Oral- and CMF Surgery
- Sinus lift
- Ridge augmentation
- Intraosseous defects
- Extraction sockets
- Osseous defects
- Furcation defects

**Product Specifications**

<p>| maxresorb® granules |</p>
<table>
<thead>
<tr>
<th>Art-No.</th>
<th>Particle Size (S)</th>
<th>Content</th>
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<td>0.5 – 1.0 mm (S)</td>
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<td>0.5 – 1.0 mm (S)</td>
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<td>201200</td>
<td>0.8 – 1.5 mm (L)</td>
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**maxresorb® inject**

<table>
<thead>
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<th>Art.-No.</th>
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<td>syringe</td>
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</tr>
<tr>
<td>221005</td>
<td>syringe</td>
<td>1 × 2.0 ml</td>
</tr>
</tbody>
</table>

**Properties**
- Active hydroxyapatite crystals
- Easy handling and good moldability

**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**

**Unique Regenerative Four-Phase Activity**

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**maxresorb® inject paste**

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- 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**

**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®
collaflleece®
mucoderm®
collprotect® membrane
Jason® membrane
permamem®
titan pin set
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®

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Shape</th>
<th>Dimension</th>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>511112</td>
<td>Cone</td>
<td>~16 mm</td>
<td>12 pieces (single sterile units)</td>
</tr>
</tbody>
</table>

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.

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 hemorrhagic compromised patients to prevent postoperative bleeding events. Following application, collacone® is resorbed within about two to four weeks.

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®

<table>
<thead>
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</thead>
<tbody>
<tr>
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<td>20 x 20 mm</td>
<td>12 pieces</td>
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</tbody>
</table>

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.

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.
**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.

- **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**

<table>
<thead>
<tr>
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<th>Size</th>
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</thead>
<tbody>
<tr>
<td>711520</td>
<td>15 × 20 mm</td>
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<td>30 × 40 mm</td>
<td>1 matrix</td>
</tr>
<tr>
<td>711540</td>
<td>40 × 40 mm</td>
<td>1 matrix</td>
</tr>
<tr>
<td>711550</td>
<td>60 × 60 mm</td>
<td>1 matrix</td>
</tr>
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</table>

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

**mucoderm® soft tissue punch**

**SEM: mucoderm®**

**histology of three months after implantation of mucoderm® in a mouse model shows excellent vascularization.**

**colprotect® membrane**

**NATIVE COLLAGEN MEMBRANE**

colprotect® 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.

- **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

- **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)

- **Product Specifications**

<table>
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<tr>
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<tbody>
<tr>
<td>621520</td>
<td>15 × 20 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>621530</td>
<td>30 × 40 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>621540</td>
<td>40 × 40 mm</td>
<td>1 membrane</td>
</tr>
</tbody>
</table>

**Easy handling of colprotect® after hydration with sterile saline**

**collprotect® membrane**

**SEM: colprotect® membrane**

**SEM: collagen fibre network of colprotect® membrane**

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

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

**After hydration with sterile saline**

**mucoderm® 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.**

**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.

**mucoderm® soft tissue punch**

**SEM: mucoderm®**

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

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

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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.

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

Product Specifications
Jason® membrane

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>6615120</td>
<td>15 x 20 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>6620220</td>
<td>20 x 30 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>6630400</td>
<td>30 x 40 mm</td>
<td>1 membrane</td>
</tr>
</tbody>
</table>

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 to 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.

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

Product Specifications
permamem®

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>8015120</td>
<td>15 x 20 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>8020220</td>
<td>20 x 30 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>8030400</td>
<td>30 x 40 mm</td>
<td>1 membrane</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>440000</td>
<td>titan pin set</td>
</tr>
<tr>
<td></td>
<td>1x applicator</td>
</tr>
<tr>
<td></td>
<td>1x dispenser for 15 titan pins</td>
</tr>
<tr>
<td></td>
<td>10x titan pins, 3 mm</td>
</tr>
<tr>
<td>440310</td>
<td>10x titan pins, 3 mm</td>
</tr>
</tbody>
</table>

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

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.

**CLINICAL SUCCESS**

with the right regeneration concept

**Share your case!**

INDICATION-MATRIX.COM
### Bone substitutes

<table>
<thead>
<tr>
<th>ART.-NO.</th>
<th>PARTICLE SIZE</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1510</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>1511</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>1512</td>
<td>0.5 – 1.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>1516</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>1521</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 1.0 ml</td>
</tr>
<tr>
<td>1522</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 1.0 ml</td>
</tr>
<tr>
<td>1525</td>
<td>1.0 – 2.0 mm</td>
<td>1 x 5.0 ml</td>
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</table>

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

### Collagen & barriers

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>51212</td>
<td>20 x 20 mm</td>
<td>12 Pieces</td>
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### Instruments

<table>
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<tr>
<th>ART.-NO.</th>
<th>PRODUCT</th>
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<tbody>
<tr>
<td>34030</td>
<td>cortico trimmer</td>
<td>1 x 1</td>
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</table>

### maxgraft® cancellous granules

<table>
<thead>
<tr>
<th>ART.-NO.</th>
<th>PARTICLE SIZE</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>30005</td>
<td>&lt; 2.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>30015</td>
<td>&lt; 2.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>30020</td>
<td>&lt; 2.0 mm</td>
<td>1 x 2.0 ml</td>
</tr>
<tr>
<td>30040</td>
<td>&lt; 2.0 mm</td>
<td>1 x 4.0 ml</td>
</tr>
</tbody>
</table>

### maxgraft® cortico-cancellous granules

<table>
<thead>
<tr>
<th>ART.-NO.</th>
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<tbody>
<tr>
<td>31005</td>
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<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>31015</td>
<td>&lt; 2.0 mm</td>
<td>1 x 0.5 ml</td>
</tr>
<tr>
<td>31020</td>
<td>&lt; 2.0 mm</td>
<td>1 x 2.0 ml</td>
</tr>
<tr>
<td>31040</td>
<td>&lt; 2.0 mm</td>
<td>1 x 4.0 ml</td>
</tr>
</tbody>
</table>

### maxgraft® blocks

<table>
<thead>
<tr>
<th>ART.-NO.</th>
<th>DIMENSION</th>
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</thead>
<tbody>
<tr>
<td>3111</td>
<td>cortico, 10 x 10 x 10 mm</td>
<td>1 block</td>
</tr>
<tr>
<td>31112</td>
<td>cortico, 10 x 10 x 10 mm cancellous</td>
<td>1 block</td>
</tr>
<tr>
<td>32111</td>
<td>10 x 10 x 10 mm cancellous</td>
<td>1 block</td>
</tr>
<tr>
<td>32112</td>
<td>10 x 10 x 10 mm cancellous</td>
<td>1 block</td>
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</tbody>
</table>

### maxgraft® cortico

<table>
<thead>
<tr>
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<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>21500</td>
<td>cortico, 25 x 10 x 1 mm</td>
</tr>
<tr>
<td>21505</td>
<td>cortico, 25 x 10 x 1 mm</td>
</tr>
</tbody>
</table>

### maxgraft® bonering

<table>
<thead>
<tr>
<th>ART.-NO.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>33170</td>
<td>Ø 7 mm, height 10 mm, width on top ~11 mm, bottom width ~7 mm</td>
<td>1 x 1</td>
</tr>
</tbody>
</table>
Innovation.
Regeneration.
Aesthetics.

botiss biomaterials GmbH
Hauptstr. 28
15806 Zossen / Germany

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Fax: +49 33769 / 88 41 986

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