Product Catalog

DENTAL BONE AND TISSUE REGENERATION

soft tissue

education

hard tissue
botiss regeneration system

360° World of Regeneration

THINK SYSTEM.

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.

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

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

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

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

Development / Production / Distribution

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

We substantially invest in research and education. Unique innovations, such as mucoderm®, and maxgraft® boneliner, 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.

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bone substitutes

cerabone®
maxresorb®
maxresorb® inject
collacone® max
maxgraft®
maxgraft® bonering
maxgraft® cortico
maxgraft® bonebuilder

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

INDICATIONS:
- Implantology,
- Periodontology and Oral and CMF Surgery
  - Sinus lift
  - Horizontal and vertical augmentation
  - Intrasosseous defects (1 to 3 walls)
  - Peri-implant defects
  - Socket and ridge preservation
  - Furcation defects (class I and II)

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

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

cerabone® granules

<table>
<thead>
<tr>
<th>Art-No.</th>
<th>Particle Size</th>
<th>Content</th>
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<tbody>
<tr>
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<td>0.5 – 1.0 mm</td>
<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>
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<td>1515</td>
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<td>1 x 5.0 ml</td>
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<tr>
<td>1522</td>
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<tr>
<td>1525</td>
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cerabone® block

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</tbody>
</table>

SEM: cerabone® macro- and micropores resembling human bone

Properties
- Proven natural bovine bone substitute with high long-term volume stability
- 100% pure biologic bone apatite
- Highest possible safety due to high temperature treatment
- Highly interconnected osteoconductive scaffold
- Rough surface favouring optimal cell adhesion and blood absorption
- Easy handling
maxresorb® is an innovative, safe, and fully synthetic bone substitute material that is characterized by controlled resorption properties and outstanding handling characteristics.

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

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

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

maxresorb® inject - Unique Regenerative Four-Phase Activity

Unique Regenerative Four-Phase Activity

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

**CALCIUM PHOSPHATE COLLAGEN CONE**

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

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

**Product Specifications**

<table>
<thead>
<tr>
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<tr>
<td>250001</td>
<td></td>
<td>height ~16 mm, width on top ~11 mm, bottom width ~7 mm</td>
<td>1 x collacone® max</td>
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Bundle collacone® max and mucoderm® soft tissue punch

<table>
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<tr>
<td>257110</td>
<td>1 x collacone® max 1 x mucoderm® punch (Ø 10 mm)</td>
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**maxgraft®**

**PROCESSED HUMAN ALLOGRAFT**

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

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

**INDICATIONS**: Implantology, Periodontology and Oral and CMF Surgery

- Socket and ridge preservation
- Intrasseous defects
- Peri-implant defects
- Defects after root resection, apicectomy and cystectomy

**maxgraft® cancellous granules**

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<td>30020</td>
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<td>1 x 2.0 ml</td>
</tr>
<tr>
<td>30040</td>
<td>2.0 mm</td>
<td>1 x 4.0 ml</td>
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<tr>
<td>30030</td>
<td>2.0–5.0 mm</td>
<td>1 x 3.0 ml</td>
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**maxgraft® cortico-cancellous granules**

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<td>31010</td>
<td>2.0 mm</td>
<td>1 x 1.0 ml</td>
</tr>
<tr>
<td>31020</td>
<td>2.0 mm</td>
<td>1 x 2.0 ml</td>
</tr>
<tr>
<td>31040</td>
<td>2.0 mm</td>
<td>1 x 4.0 ml</td>
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**maxgraft® blocks**

<table>
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<tr>
<td>31111</td>
<td>uni-cortical 10 x 10 x 10 mm</td>
<td>1 x block*</td>
</tr>
<tr>
<td>31112</td>
<td>uni-cortical 20 x 10 x 10 mm</td>
<td>1 x block*</td>
</tr>
<tr>
<td>32111</td>
<td>cancellous 10 x 10 x 10 mm</td>
<td>1 x block</td>
</tr>
<tr>
<td>32112</td>
<td>cancellous 20 x 10 x 10 mm</td>
<td>1 x block</td>
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</table>

**INDICATIONS**: Implantology, Periodontology and 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

**maxgraft® blocks**: A predictable and highly effective alternative to traditional block grafting and Ridge augmentation

*Living donors
**Donor organs
***Tissuebank: Cells-Tissuebank Austria, Krems, Austria
maxgraft® bonering

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

**Preparation of ring bed**

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

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

**INDICATIONS:**

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

**Advantages**

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

**maxgraft® bonering surgical kit**

With this surgical kit, botiss provides all necessary instruments to apply the maxgraft® bonering technique. The kit includes two convenient sizes of trephines, which precisely match the maxgraft® bonering diameters.

The planators allow paving of the local bone to create a congruent and fresh contact surface of the recipient site. The diamond disc and the diamond tulip help to shape the maxgraft® bonering for excellent adjustment to the local bone and for improved soft tissue healing. All instruments are made of high quality surgical steel.

**Soft tissue management**

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

**One-stage bone augmentation and implant placement**

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

**Product Specifications**

**maxgraft® bonering 3.3**

<table>
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<tr>
<td>33170</td>
<td>cancellous ring, Ø 7 mm</td>
<td>1 x</td>
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**maxgraft® bonering 4.1**

<table>
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<td>maxgraft® bonering surgical kit</td>
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<tr>
<td>33010</td>
<td>bonering fix</td>
<td>1 x</td>
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maxgraft® cortico
SHELL TECHNIQUE
WITH ALLOGENIC BONE PLATES

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

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

Preparation of the augmentation area

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

Fixation and adaption

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

Indications:
- 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.

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

Properties
- Osteoconductive
- Natural and controlled remodeling
- Conserved biomechanical parameters

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

Product Specifications

maxgraft® cortico

<table>
<thead>
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<th>Content</th>
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<tr>
<td>31251</td>
<td>cortical strut, 25 x 10 x 1 mm</td>
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</tr>
<tr>
<td>31253</td>
<td>cortical strut, 25 x 15 x 1 mm</td>
<td>3 x 1</td>
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cortico trimmer

<table>
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<tbody>
<tr>
<td>34000</td>
<td>cortico trimmer</td>
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</table>
**maxgraft® bonebuilder**

**CUSTOMIZED ALLOGENIC BONE BLOCK**

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

**The maxgraft® bonebuilder technology**

**In-house planning**

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

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

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

**Indications**

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

**Advantages**

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

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

The CT/CBCT-data of the bone defect is transferred into a 3D model based on this model botiss designs a virtual block, which matches the surface structure of the defect and allows stable implant insertion after augmentation.

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

**Individual order**

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

**5. Production of the individual bone block**

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

**Product Specifications**

<table>
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<tr>
<th>maxgraft® bonebuilder</th>
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<tbody>
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<tr>
<td>PMIa 1</td>
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<tr>
<td>PMIa 2</td>
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**bonewriter dummy**

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

**1. Upload of CT/CBCT-data on**

www.botiss-bonebuilder.com

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

**2. Block design**

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

**3. Design quality check**

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

**4. Individual order**

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

**www.botiss-bonebuilder.com**
mucoderm®
collacone®
collafleece®
collprotect® membrane
Jason® membrane
permamem®
titan pin set

**mucoderm®**

- A threedimensional, 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. 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 and Oral and CMF Surgery
- Treatment of gingival recessions
- Soft tissue grafting in combination with GBR/GTR
- Broadening of attached gingiva
- Closure of extraction sockets
- Thickening of the periimplant soft tissue

**Product Specifications**

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</tr>
<tr>
<td>11111010</td>
<td>Ø 10 mm</td>
<td>1 matrix</td>
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*Also available as bundle (Art.-No. 257110): mucoderm® soft tissue punch and collacone® max.*
**collacone®**

**COLLAGEN HEMOSTAT (CONE)**

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

**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**

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<td>511112</td>
<td>Cone</td>
<td>~16 mm height, ~11 mm width on tip, ~7 mm bottom width, 12 pieces (single sterile units)</td>
<td>12 pieces</td>
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</table>

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

**INDICATIONS:**
- Implantology, Periodontology and CMF Surgery
  - Closure of extraction sites
  - Biopsy harvesting sites
  - Minor oral wounds

**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.

**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

**INDICATIONS:**
- Implantology, Periodontology and Oral and CMF Surgery
  - Minor oral wounds
  - Biopsy harvesting sites
  - Bone block harvesting sites
  - Soft tissue transplant harvesting sites
  - Extraction sockets

**Product Specifications**

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<td>20 x 20 mm</td>
<td>12 pieces</td>
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</table>

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

**Clinical use of collacone®**

**Clinical use of collafleece®**
**collprotect® membrane**

**NATIVE COLLAGEN MEMBRANE**

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

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

**INDICATIONS:**
- Implantology,
- Periodontology and Oral and CMF Surgery
  - Horizontal augmentation
  - Socket and ridge preservation
  - Sinus lift
  - Protection and covering of Schneiderian membrane
  - Fenestration and dehiscence defects
  - Intraosseous defects (1 to 3 walls)
  - Furcation defects (class I and II)

**Product Specifications**

collprotect® membrane

<table>
<thead>
<tr>
<th>Art.-No.</th>
<th>Size</th>
<th>Content</th>
</tr>
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<tbody>
<tr>
<td>601520</td>
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<td>1 membrane</td>
</tr>
<tr>
<td>602030</td>
<td>20 × 30 mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>603040</td>
<td>30 × 40 mm</td>
<td>1 membrane</td>
</tr>
</tbody>
</table>

**INDICATIONS:**
- 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)
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**Product Specifications**

<table>
<thead>
<tr>
<th>Jason® membrane</th>
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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:**
- Implantology,
- Periodontology and Oral and CMF Surgery
  - Horizontal and vertical augmentation
  - Ridge reconstruction
  - Socket and ridge preservation
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**Good handling of Jason® membrane after hydration.**
**permamem®**
HIGH-DENSITY PTFE BARRIER MEMBRANE

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

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

**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
- Either side may be placed towards the defect site

**INDICATIONS:**
- Implantology, Periodontology and Oral and CMF Surgery
  - Socket and ridge preservation (open healing)
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During the application of modern GBR and GTR techniques, barrier membranes are indispensable to achieve reliable results.

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

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

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

Product Specifications

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<thead>
<tr>
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<tbody>
<tr>
<td>440000</td>
<td>titan pin set</td>
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<tr>
<td></td>
<td>1x applicator</td>
</tr>
<tr>
<td></td>
<td>1x dispenser for 15 titan pins</td>
</tr>
<tr>
<td></td>
<td>1x titanium pins 3 mm (10 pieces)</td>
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<tr>
<td>440310</td>
<td>titan pins, 3 mm, 10 pcs.</td>
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All parts are delivered unsterile and need to be sterilized before use.
### Bone substitutes

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Particles Size</th>
<th>Content</th>
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<tbody>
<tr>
<td>maxgraft® granules</td>
<td>Blocks</td>
<td>0.5-1.0 mm</td>
<td>1 x 0.5 ml</td>
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<tr>
<td>maxgraft® inject</td>
<td>Art.-No. 22010</td>
<td>0.5-1.0 mm</td>
<td>1 x 0.5 ml</td>
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<tr>
<td>maxgraft® cancellous granules</td>
<td>Art.-No. 30030</td>
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<tr>
<td>maxgraft® cortico</td>
<td>Art.-No. 31251</td>
<td>cortical strut, 20 x 10 x 1 mm</td>
<td>1 x</td>
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<tr>
<td>maxgraft® bonebuilder</td>
<td>Art.-No. 32100</td>
<td>Individual 3D-printed model of the patient’s defect and the plastic bonebuilder block (for demonstration purposes)</td>
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<tr>
<td>maxgraft® bonering 3.3</td>
<td>Art.-No. 31011</td>
<td>cancellous ring, Ø 6.5 mm</td>
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<tr>
<td>maxgraft® bonering 4.1</td>
<td>Art.-No. 31012</td>
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### Collagen & barriers

<table>
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<tr>
<th>Name</th>
<th>Description</th>
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<tr>
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<td>collagen</td>
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<td>mucoderm®</td>
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### Instruments

<table>
<thead>
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<th>Name</th>
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<tbody>
<tr>
<td>titan pin set</td>
<td>Art.-No. 440200</td>
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<tr>
<td>bonering fix</td>
<td>Art.-No. 32010</td>
<td>bonering fix</td>
<td>1 x</td>
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<tr>
<td>maxgraft® bonering surgical kit</td>
<td>Art.-No. 33010</td>
<td>1 x implant, 7 mm</td>
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<tr>
<td>cortico trimmer</td>
<td>Art.-No. 34030</td>
<td>cortico trimmer</td>
<td>1 x</td>
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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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