Dental hard- and soft tissue regeneration

Product Catalog 2016/2017

Dentegris GmbH
Niederstraße 29   |  D E-40789 Monheim
Phone: +49 (0)2841-88271-0 |  www.dentegris.com
CompactBone® B. is a highly reliable, ultrapure, natural bone substitution material made from bovine bone. The mineral composition, physical, chemical, and biological properties, and special hydrophilic surface closely resemble the characteristics of human bone.

The uniquely safe high-temperature manufacturing process removes all organic components and prevents immune responses. CompactBone® B. is 100% BSE-free (1) and contains no proteins.

Properties

- Natural bone substitution material made from bovine bone
- Long-term volume stability
- No inflammatory immune system reactions
- Interconnecting pore system for quick revascularization
- Slow, delayed resorption with controlled integration due to new bone growth
- Hydrophilic surface, optimal cell and platelet adhesion
- Safe and sterile
- Easy handling

Indications: Implantology, periodontology, oral and maxillofacial surgery

- Sinus lift
- Vertical augmentation
- Horizontal augmentation
- Extraction socket
- Intraosseous defect
- Perimplantary defect
- Furcation defect

Product specifications

CompactBone® B. Granules (small grain size)

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Particle size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOV05S</td>
<td>0.5-1.0 mm</td>
<td>1x 0.5cc (ml)</td>
</tr>
<tr>
<td>BOV10S</td>
<td>0.5-1.0 mm</td>
<td>1x 1.0cc (ml)</td>
</tr>
<tr>
<td>BOV20S</td>
<td>0.5-1.0 mm</td>
<td>1x 2.0cc (ml)</td>
</tr>
<tr>
<td>BOV50S</td>
<td>0.5-1.0 mm</td>
<td>1x 5.0cc (ml)</td>
</tr>
</tbody>
</table>

CompactBone® B. Granules (large grain size)

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Particle size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOV05L</td>
<td>1.0-2.0 mm</td>
<td>1x 0.5cc (ml)</td>
</tr>
<tr>
<td>BOV10L</td>
<td>1.0-2.0 mm</td>
<td>1x 1.0cc (ml)</td>
</tr>
<tr>
<td>BOV20L</td>
<td>1.0-2.0 mm</td>
<td>1x 2.0cc (ml)</td>
</tr>
<tr>
<td>BOV50L</td>
<td>1.0-2.0 mm</td>
<td>1x 5.0cc (ml)</td>
</tr>
</tbody>
</table>

As confirmed by the Hessian Ministry of Health

Dentegris GmbH
Niederstraße 29 | DE-40789 Monheim
Phone: +49 (0)2841-88271-0 | www.dentegris.com
CompactBone® S. is an innovative, fully synthetic bone substitution material that is both safe and reliable. CompactBone® S. offers a closely controlled resorption profile and outstanding application properties. The synthetic, completely homogeneous composition of 60% slowly resorbable hydroxyapatite and 40% beta tricalcium phosphate (ß-TCP) results in two different activation phases. CompactBone® S. supports bone regeneration while maintaining volume and mechanical stability.

The osteoconductivity and cell occlusivity of CompactBone® S. result from the optimized matrix design of interconnecting pores with a porosity of up to 80% and pore sizes from 200 to 800 μm. The macroporosity of CompactBone® S. provides ideal conditions for osteogenetic cell growth and promotes maximum regeneration of vital bone. The microporosity allows for the targeted penetration of blood, proteins, and stem cells.

The two mineral phases do not result from mixing, but from synthesis. This guarantees controlled resorption with long-term volume stability.

Properties
- 100% synthetic
- Mechanical and volume stability
- High level of interconnecting porosity
- Hydrophilic surface
- Safe, reliable, and sterile
- 60% hydroxyapatite / 40% beta-TCP
- Osteoconductive
- Macropores 200 - 800 μm, micropores 1-10 μm
- 60% hydroxyapatite / 40% beta-TCP
- Osteoconductive
- Macropores 200 - 800 μm, micropores 1-10 μm

Indications: Implantology, periodontology, oral and maxillofacial surgery
- Sinus lift
- Alveolar ridge augmentation
- Extraction socket
- Intraosseous defect
- Bone defect
- Furcation defect

Product specifications

<table>
<thead>
<tr>
<th>CompactBone® S. Granules</th>
<th>Item no.</th>
<th>Particle size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYN05-S</td>
<td>0.5-1.0mm (S)</td>
<td>1 x 0.5cc (ml)</td>
<td></td>
</tr>
<tr>
<td>SYN10-S</td>
<td>0.5-1.0mm (S)</td>
<td>1 x 1.0cc (ml)</td>
<td></td>
</tr>
<tr>
<td>SYN20-M</td>
<td>0.8-1.5mm (L)</td>
<td>1 x 2.0cc (ml)</td>
<td></td>
</tr>
</tbody>
</table>
BoneProtect® Membrane
Collagen Membrane - Highly Effective, Resorbable Natural Soft Tissue

BoneProtect® Membrane is a natural collagen membrane made from porcine pericardial tissue, specifically developed and manufactured for dental tissue regeneration. BoneProtect® Membrane combines ease of use, targeted wound healing, and natural biomechanical properties for outstanding therapeutic safety. Thanks to its strong natural cross-linking properties, the tissue has a long-term adequate barrier function. Our gentle production process retains all natural properties of the pericardium. BoneProtect® Membrane has the characteristics of natural soft tissue and features a smooth side with a denser structure (labeled G) as well as a rough side that serves as a guide for cells and blood vessels.

Properties

- Long-term barrier function from 12 to more than 24 weeks
- Natural structure and minimal thickness (approx. 0.3 to 0.4 mm)
- Guided wound healing
- Easy handling; can be used in dry or wet condition
- Can be cut to size
- Not sticky when wet, only small volume increase when wet
- Quick vascularization thanks to 3D structure
- High breaking strength in all directions
- Excellent surface adaptation
- Quick rehydration thanks to hydrophilic properties

Indications: Implantology, periodontology, oral and maxillofacial surgery

- Dehiscence
- Sinus lift
- Protection and coverage of the Schneider’s membrane
- Extraction socket
- Preservation of the alveolar ridge
- Horizontal & vertical augmentation
- Alveolar ridge reconstruction
- Intraosseous defect (1-3 sides)
- Furcation defect (classes I + II)

Product specifications

**BoneProtect® Membrane**

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEMS</td>
<td>15x20mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>MEMM</td>
<td>20x30mm</td>
<td>1 membrane</td>
</tr>
<tr>
<td>MEML</td>
<td>30x40mm</td>
<td>1 membrane</td>
</tr>
</tbody>
</table>

Dentegris GmbH
Niederstraße 29  | DE-40789 Monheim
Phone: +49 (0)2841-88271-0  | www.dentegris.com
BoneProtect® Guide is a naturally cross linked collagen membrane. Due to the rough and porous three dimensional collagen structure, controlled wound healing in combination with guided bone and tissue regeneration achieves optimal treatment results. During the regeneration process BoneProtect® Guide offers the necessary barrier function balanced with a controlled resorption time without inflammatory soft tissue reaction. The soft tissue around a BoneProtect® Guide usually heals without any problem, even if postoperative dehiscences occurs. The biologic structure of the BoneProtect® Guide surface prevents ingrowth of soft tissue, allows cells and blood vessels penetration and quick integration into the surrounding tissue. This unique biologic function provides a perfect basis for hard and soft tissue healing.

Properties
- Medium-term barrier function with resorption time of approx. 8 to 12 weeks
- Natural structure and standard thickness of approximately 0.4 to 0.6 mm
- Controlled wound healing and blood clot support
- Three dimensional natural cross linked collagen matrix
- Cell-occlusive: preventing gingival cell invasion
- Rough and porous structure for cell and blood vessel guidance
- Can be cut to shape for specific procedures, excellent surface adaptation
- Easy handling; can be used in dry or wet condition, not sticky when wet
- Furcation defects (classes I + II)
- Fenestration defects
- Sinus lift
- Protection and coverage of the Schneiderian membrane

Indications: Implantology, periodontology, oral and maxillofacial surgery
- Horizontal and/or vertical ridge augmentation
- Preservation of alveolar ridge
- Socket preservation
- Intraossary defect (1-3 sides)
- Dehiscence defects
- Furcation defects (classes I + II)
- Fenestration defects
- Sinus lift
- Protection and coverage of the Schneiderian membrane

Product specifications

| BoneProtect® Guide |
|-------------------|------------|
| Item no.          | Size       | Content    |
| GUIDE-S           | 15x20mm    | 1 membrane |
| GUIDE-M           | 20x30mm    | 1 membrane |
| GUIDE-L           | 30x40mm    | 1 membrane |

Histology 6 weeks after implantation of BoneProtect® Guide: blood vessels have penetrated the porous structure, collagen fibres are visible and the resorption process is ongoing without any inflammatory tissue response.
BoneProtect® Fleece is a stable hemostatic material made from natural collagen. The hemostatic effect of collagen is well known and researched and is associated with the adhesion of platelets on the collagen fibrils. This in turn leads to platelet aggregation and the release of coagulation factors, which start the coagulation cascade and initiate hemostasis. BoneProtect Fleece offers a barrier function for 2-4 weeks.

Properties
- Highly effective local hemostatic agent
- Highly adhesive in moist environments
- Resorbable due to quick decomposition from enzyme reactions
- Easy to apply
- Stable in contact with blood

Indications: Implantology, periodontology, oral and maxillofacial surgery
- Augmentation cover
- Extraction socket
- Biopsy punch site

Product specifications

<table>
<thead>
<tr>
<th>BoneProtect® Fleece</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item no.</td>
</tr>
<tr>
<td>FLEECE-12</td>
</tr>
</tbody>
</table>

Dentegris GmbH
Niederstraße 29 | DE-40789 Monheim
Phone: +49 (0)2841-88271-0 | www.dentegris.com
BoneProtect® Cone is both a resorbable native collagen wound dressing cone intended to assist the wound healing process, and a nature matrix providing the structure for new bone formation. The healing of an extraction socket following tooth removal is characterized by formation and maturation of a blood clot followed by infiltration of fibroblasts to replace the coagulum and finally establishment of a provisional matrix that allows new bone tissue formation in the extraction socket. BoneProtect® Cone offers an easy, highly biocompatible and predictable socket preservation treatment concept.

Properties

- Resorption approximately 2-4 weeks
- Stabilisation of blood clot and effective local haemostatic agent
- Resorbable due to quick decomposition from enzymatic reactions
- Controlled wound healing process
- 3 dimensional matrix for tissue ingrowth
- Maintains integrity in the presence of blood and during application; easy to apply

Indications: Implantology, periodontology, oral and maxillofacial surgery

- Socket preservation
- Internal sinus lift
- Closure of grafted, extraction and biopsy sites
- Control and stop of bleeding in extraction sockets or biopsy sites
- Minor oral wounds

Product specifications

<table>
<thead>
<tr>
<th>BoneProtect® Cone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item no.</strong></td>
</tr>
<tr>
<td>CONE-12</td>
</tr>
</tbody>
</table>

MucoMatrixX® is a collagen tissue matrix derived of animal dermis that passes through a multi-step cleaning process, which removes all potential tissue rejection components from the dermis. This results into a 3-dimensional stable matrix consisting of collagen and elastin. MucoMatrixX® supports revascularisation and fast soft tissue integration and is a valid alternative for patients own connective tissue.

After placement, the patient’s blood infiltrates the MucoMatrixX® graft through the three dimensional soft tissue network, bringing host cells to the soft tissue graft surface and starting the revascularisation process. Significant revascularisation can begin after implantation depending on the patient’s healthy structure.

Properties
- 3-dimensional stable matrix derived of animal dermis
- Resorption time approx. 6-12 months
- Rapid vascularisation and integration
- Complete remodeling into patients own tissue
- Soft tissue replacement without palatal autograft harvesting
- Can be easily applied and fixed
- Can be cut to shape for specific procedures
- Thickness approx. 1.2-1.7mm

Indications: Implantology, periodontology, oral and maxillofacial surgery
- Soft tissue augmentation
- Root coverage
- Tunnel technique
- Soft tissue grafting in combination with GBR/GTR

Product specifications

<table>
<thead>
<tr>
<th>MucoMatrixX®</th>
<th>Item no.</th>
<th>Size</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MUCO-S</td>
<td>15x20mm</td>
<td>1 piece</td>
</tr>
<tr>
<td></td>
<td>MUCO-M</td>
<td>20x30mm</td>
<td>1 piece</td>
</tr>
<tr>
<td></td>
<td>MUCO-L</td>
<td>30x40mm</td>
<td>1 piece</td>
</tr>
</tbody>
</table>
## Product Portfolio
### Indication Recommendations

<table>
<thead>
<tr>
<th>Indikations</th>
<th>Products</th>
<th>BoneProtect® Fleece</th>
<th>BoneProtect® Cone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal / vertikal augmentation</td>
<td>CompactBone® B. Granules</td>
<td>0,8-1,5mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td></td>
<td>CompactBone® S. Granules</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td></td>
<td>BoneProtect® Membrane</td>
<td>15x20mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td></td>
<td>BoneProtect® Guide</td>
<td>15x20mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Preservation of the alveolar ridge</td>
<td>CompactBone® B. Granules</td>
<td>2,0; 5,0cc</td>
<td>20x30mm</td>
</tr>
<tr>
<td></td>
<td>CompactBone® S. Granules</td>
<td>0,8-1,5mm</td>
<td>30x40mm</td>
</tr>
<tr>
<td></td>
<td>BoneProtect® Membrane</td>
<td>30x40mm</td>
<td>30x40mm</td>
</tr>
<tr>
<td></td>
<td>BoneProtect® Guide</td>
<td>30x40mm</td>
<td>30x40mm</td>
</tr>
<tr>
<td>Extraction sockets / socket preservation</td>
<td>BoneProtect® Fleece</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Intraosseous defect (1-3 sides)</td>
<td>BoneProtect® Fleece</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Dehiscence</td>
<td>BoneProtect® Cone</td>
<td>15x20mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Furcation defect (classes I-II)</td>
<td>BoneProtect® Fleece</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Fenestration defect</td>
<td>BoneProtect® Cone</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Sinus lift</td>
<td>BoneProtect® Fleece</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
<tr>
<td>Protection of the Schneiderian membrane</td>
<td>BoneProtect® Cone</td>
<td>0,5-1,0mm</td>
<td>15x20mm</td>
</tr>
</tbody>
</table>

Dentegris recommends for the treatment of large defects, if available, a mix of the granules with autologous bone graft.

---

**CompactBone® B.**

**CompactBone® S.**

**BoneProtect® Guide**

**BoneProtect® Fleece**

**BoneProtect® Cone**

**BoneProtect® Membrane**
Clinical Application Examples
Implantology, periodontology, oral and maxillofacial surgery

Root recession: **MucoMatrixX®** case by PD Dr. Stefan Hägewald, Berlin

- Clinical situation of the root recession before **MucoMatrixX®** placement.
- **MucoMatrixX®** placement over the tooth root.
- Gingival tissue was coronally repositioned, covering the **MucoMatrixX®** and the roots of teeth, and sutured in place.
- 6 months post-op view: the previously recessed roots of teeth are covered with attached pink, keratinised gingival tissue.

Root coverage: **MucoMatrixX®** case by PD Dr. Adrian Kasaj, Mainz

- Clinical situation of the root recession before **MucoMatrixX®** placement.
- **MucoMatrixX®** placement over the tooth root area.
- Gingival tissue was coronally repositioned, covering the **MucoMatrixX®** and the roots of teeth, and sutured in place.
- 6 months post-op view: the previously recessed roots of teeth are covered with attached pink, keratinised gingival tissue.

Horizontal & vertical augmentation: **CompactBone®** B; **BoneProtect®** Membrane case by Dr. Marius Steigmann, Neckargemünd

- Clinical application after implant insertion.
- Horizontal and vertical augmentation with **CompactBone®** B, particle size 1-2 mm.
- Coverage of the augmentation with **BoneProtect®** Membrane, size 20 x 30 mm.
- Tension-free wound closure.
**Root coverage: MucoMatrixX® case by Dr. Roland Török, Nürnberg**

- Preclinical situation, root recession visible.
- Clinical situation after MucoMatrixX® placement.
- 1 month post op.
- 2 years post op.

**Sinuslift with lateral approach: Case by Dr. Stefan Peev, Sofia**

- Insertion of BoneProtect® Fleece.
- BoneProtect® Fleece placed on Sinus membrane.
- The implant is placed and the grafting cavity is filled up with CompactBone® B.
- BoneProtect® Membrane is placed to close the lateral window.

**Socket preservation: Case by Dr. Fernando Rojas-Vizcaya, Castellón & Chapel Hill**

- Clinical situation after tooth removal.
- Socket filled with CompactBone® B. and buccal wall protected with BoneProtect® Guide.
- BoneProtect® Guide turned down over the socket.
- Final suturing of the socket.