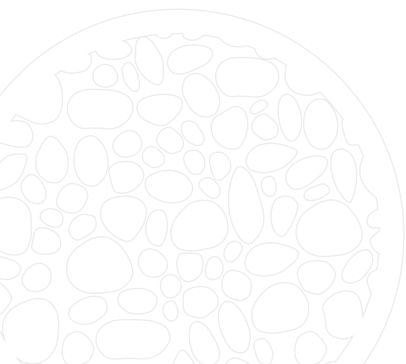




Product catalog Biomaterials

Valid from January 2023



Content

Introduction	2
Biomaterials for hard and soft tissue regeneration	2
Bone graft substitutes	3
MinerOss® A (allogenic)	3
MinerOss® XP (porcine)	4
MinerOss® X (bovine)	5
CeraOss® (bovine)	6
SynMax® (synthetic)	7
Membranes	8
Mem-Lok® Pliable (porcine)	8
Argonaut® (porcine)	9
Mem-Lok® RCM (bovine)	10
PermaPro® (synthetic)	11
Reconstructive Tissue Matrix	12
NovoMatrix® (porcine)	12
Wound dressings	13
BioPlug and BioStrip (bovine)	13
Bon fixation and membrane stabilization	14
truFIX System	14
truTACK, truSCREW and truTENT	15
Titanium Meshes	15
Product overview	16
References	24

Biomaterials for hard and soft tissue regeneration

Bone graft substitutes, membranes, Reconstructive Tissue Matrix and wound dressings

The correct choice of biomaterials is crucial to achieve optimal clinical outcomes - in functional, structural and esthetic terms. Our portfolio of biomaterials offers you a comprehensive range of products for virtually all requirements needed for the regeneration of hard and soft tissue deficits. The product catalog provides a summary of our entire biomaterials portfolio. It serves as a guide and aid for the selection of suitable biomaterials.

Our product portfolio includes allogeneic (human origin), xenogeneic (porcine and bovine origin) and synthetic bone substitute materials and membranes. Due to their structural properties and manufacturing processes, the materials differ in their resorption behavior as well as their handling.

The **allogeneic bone substitute material** is an allograft made from human donor bone and is subject to high safety standards in the manufacturing process. The range of **xenogeneic** bone substitute materials is methodically processed from bovine or porcine bone and extensively tested to eliminate potential antigenicity and to provide a favorable environment for new bone growth. **Synthetic** bone substitute material offers an alternative to commercially available bone substitute materials and extends the treatment spectrum.

In addition to bone substitute materials, our portfolio also includes **membranes** (of porcine and bovine origin as well as synthetic) as well as an acellular dermal **tissue matrix** of porcine origin. The **collagen wound dressings** round off our product portfolio.



Highest quality standards



Clinical proven



CE identification of the products



Novel solutions



Partner of success

Allogenic bone graft substitute

MinerOss® A



MinerOss® A is an allograft made from human donor bone. Scientific studies have shown that allografts are most similar to the patient's autologous bone in use. They integrate quickly and have the potential for remodeling [1-5].

MinerOss® A is processed by Cells+Tissuebank Austria (C+TBA) in a multi-step purification process for safe use – after the donor tissue has undergone a stringent serological screening protocol. It consists of allogeneic bone tissue and enables reliable and predictable results for the regeneration of bone defects.

Ideal for following indications

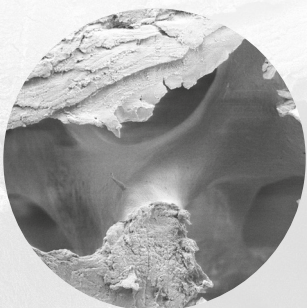
- Regeneration of periodontal osseous defects, even after cyst or root tip resections
- Regeneration of extraction sockets and filling gaps between the alveolar wall and dental implants
- Sinus floor augmentation
- Horizontal augmentation of alveolar ridges
- Three dimensional (horizontal and/or vertical) augmentation of the alveolar ridge

MinerOss® A is largely derived from donated human femoral heads that are received and screened following hip replacement surgery. It is available as granules, blocks and plates.

Due to the natural composition of the bone, which contains mineralized human collagen, MinerOss® A exhibits a high biological regenerative capacity in combination with a natural remodeling behavior [4]. Therefore, MinerOss® A is an excellent alternative to harvesting bone from patients. Surgical intervention to harvest an autologous graft is eliminated, reducing morbidity for the patient.

Product features

- Proprietary tissue processing maintains tissue integrity
- Bone from human donors (living donors: femoral heads, post-mortem donors: diaphysis)
- Natural bone composition – mineralized human collagen
- High biologic regeneration capability and natural remodeling [4]
- Osteoconductive properties support controlled tissue remodeling
- 5 years shelf-life at room temperature (5–30 °C)



SEM picture of MinerOss® A at 100-fold magnification showing macroporous structure.

Porcine bone graft substitute

MinerOss® XP



MinerOss® XP is a porous bone mineral matrix consisting largely of calcium phosphate. It is obtained by removing organic components from cancellous bone of porcine origin. The inorganic MinerOss® XP bone matrix has macro- and microscopic structures which resemble

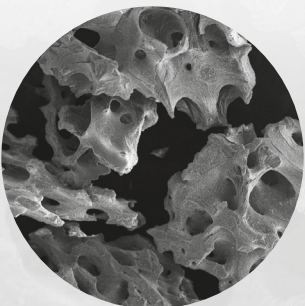
those of human bone. Due to this trabecular architecture with inter-connecting macro- and micropores, the ingrowth of new vessels and bone at the graft site is optimized.

Ideal for following indications

- Augmentation or reconstruction of the alveolar ridge
- Filling of intrabony periodontal defects
- Filling of defects after root resection, apicoectomy, or cystectomy
- Filling of extraction sockets for the protection and preservation of the alveolar ridge
- Sinus floor elevation
- Filling of periodontal defects in conjunction with products for guided tissue regeneration (GTR) or guided bone regeneration (GBR)
- Filling of peri-implant defects in conjunction with products for guided bone regeneration (GBR)

Product features

- Intra and interparticle space [6]
 - The highly porous structure of MinerOss® XP provides substantial space for the growth of new blood vessels and new bone.
 - More intra and interparticular space is provided for osteoconduction and new bone formation than with comparable materials.
- Rough surface facilitates cell adhesion and spread for bone in-growth [6]
- High volume fill per unit weight [6]
- Carbonate apatite substitution promotes better osteoclastic remodelling than hydroxyapatite [7–10]



SEM picture of MinerOss® XP at 25-fold magnification – macropores and micropores resemble human bone.

Bovine bone graft substitute

MinerOss® X



18 years
on the market



MinerOss® X is an anorganic, bovine bone, mineral matrix available in a variety of options. Physically and chemically, the product is comparable to the mineral structure of human bone. The formation and ingrowth of new bone at the implantation site of MinerOss® X is favored, due to its trabecular architecture, interconnecting macro and micro pores and its

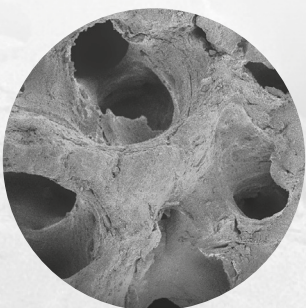
natural consistency. MinerOss® X Collagen is a combination of 95 % anorganic, cancellous, bovine bone and approximately 5 % bovine collagen. This block form allows for convenience during placement and is an ideal solution for many applications, including ridge preservation, minor bone augmentations and periodontal regeneration.

Ideal for following indications

- Augmentation or reconstruction of the alveolar ridge
- Filling of intrabony periodontal defects
- Filling of defects after root resection, apicoectomy, or cystectomy
- Filling of extraction sockets for the protection and preservation of the alveolar ridge
- Sinus floor elevation
- Filling of periodontal defects in conjunction with products for guided tissue regeneration (GTR) or guided bone regeneration (GBR)
- Filling of peri-implant defects in conjunction with products for guided bone regeneration (GBR)

Product features

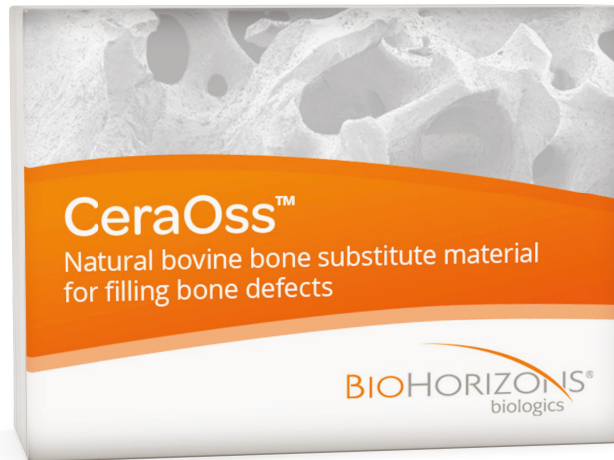
- Flexible, to meet clinical needs
 - In combination with Mem-Lok® RCM, MinerOss® X preserves ideal space and long-term cell occlusion for maximum bone volume
- Matrix for osseointegration
 - Diffraction patterns are close to the mature native bone diffraction pattern [11]
 - High porosity which supports and enhances integration of new bone
- Dependable stability and strength
 - Deproteinized and delipidized, gamma-sterilized
 - Optimal calcium/phosphate balance comparable to human bone [12]



SEM picture of MinerOss® X at 50-fold magnification – macropores and micropores resemble human bone.

Bovine bone graft substitute

CeraOss®



CeraOss® is a 100 % pure bone mineral of bovine origin manufactured by a unique 1200 °C production process. 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.

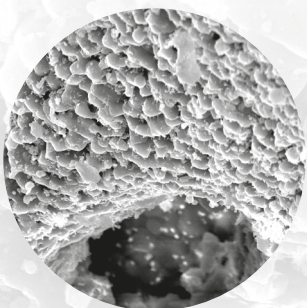
The unique processing ensures maximum safety and leads to an exceptionally high purity of CeraOss®, providing ultimate volume stability of the augmentation site [13–15].

Ideal for following indications

- Alveolar ridge augmentation/reconstruction
- Filling of bone defects (including after root resection, apicoectomy or cystectomy)
- Filling of extraction alveoli to support alveolar ridge preservation
- Sinus lift procedure
- Filling of periodontal bone defects
- Filling of extraction sockets as part of immediate implantations
- Filling of peri-implant bone defects

Product features

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



SEM picture of CeraOss® at 5000-fold magnification showing microporous structure.

SynMax[®] Synthetic bone graft substitute

SynMax[®]



SynMax[®] is a fully synthetic, safe and biocompatible material that, when brought into an osseous environment, serves as an osteoconductive scaffold to support the ingrowth and fusion of adjacent, vital bone. It's composed of 60 % hydroxyapatite and 40 % betatricalcium phosphate. After implantation the material undergoes a natural remodeling and is gradually resorbed and replaced by new bone.

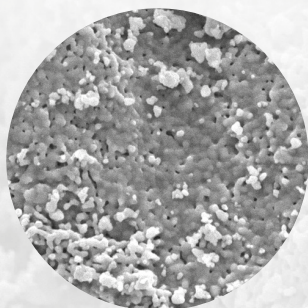
SynMax[®] is a bone graft material that provides clinicians and their patients with an ideal alternative to human allograft and animal origin bone graft material [16–18].

Ideal for following indications

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

Product features

- 100 % synthetic, no risk of disease transmission, high safety
- Controlled resorption due to biphasic composition
- Very rough surface and high porosity supports integration and bone formation



SEM picture of SynMax[®] at 1000-fold magnification showing microporous structure.

Porcine collagen membrane

Mem-Lok® Pliable



Mem-Lok® Pliable is a strong and conformable collagen membrane made of highly purified, porcine tissue. Mem-Lok® Pliable offers flexibility and strength. It is easy to handle and simple to fixate. This barrier membrane supports soft tissue and stabilizes the grafting area. Meticulously manufactured from highly purified, intact, porcine collagen

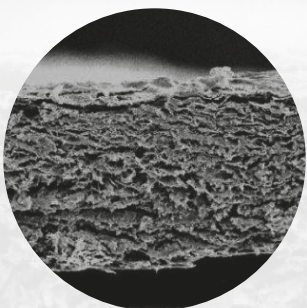
and minimally cross-linked, it is biocompatible and predictably resorbable. It is smoothly adaptable to defects and contours and can easily be repositioned. Due to its high suture pullout strength, it can be firmly anchored to the surrounding tissue.

Ideal for following indications

- Augmentation around implants placed in extraction sockets
- Augmentation around implants placed in extended extraction sockets
- Local ridge augmentation for later implantation
- Reconstruction of the alveolar ridge for prosthetic treatment
- Filling of bone defects after root resection, cystectomy, or removal of retained teeth
- Guided bone regeneration in dehiscence defects
- Guided bone regeneration procedures in periodontal defects

Product features

- Special handling characteristics [19]
 - Not side-specific
 - Can be placed dry or hydrated
 - Does not adhere to gloves or instruments
 - Simple, easy fixation
 - Single layer, intact collagen
 - Cell occlusive
 - High tear strength
- Supports wound healing [19]
 - Reduced degree of inflammation and foreign body response confirmed in pre-clinical testing at early timepoints
 - Protects the graft area from undesirable soft-tissue infiltration during initial healing phase
 - Enables nutrient transfer
 - Predictable resorption in 12 to 16 weeks
 - Greater initial stability during the critical early weeks of healing due to slow resorption time
- Dependable strength
 - Proven biomechanical strength safeguards fixation
 - In pre-clinical testing, suture pullout strength was three times higher than a comparable collagen membrane [19].



SEM picture of Mem-Lok® Pliable at 50-fold magnification – not side-specific; dense, uniform single layer [11]

Porcine collagen membrane

Argonaut®



Argonaut® is a long lasting, conformable barrier membrane that drapes easily for graft site contours. It has excellent strength and stability for optimal graft site protection. Argonaut® membrane is a completely resorbable collagen membrane produced from porcine pericardium in a standardized, controlled purification process and used to support

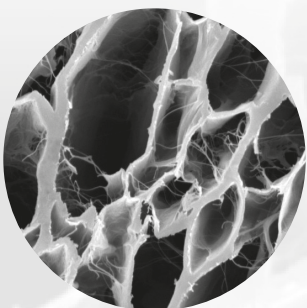
guided tissue and bone regeneration, for covering implants, and for periodontal tissue regeneration. Because of the special structure and strong fiber-linking of the pericardium, Argonaut® membrane offers a naturally long barrier function without chemical cross-linking, allowing for predictable regeneration particularly of large defects [20–22].

Ideal for following indications

- In the context of sinus floor augmentation / support of the Schneiderian membrane
- In the context of alveolar ridge augmentation/reconstruction
- For the treatment of surgical bone defects, bone wall defects, defects around bone grafts and dental implants
- For the treatment of periodontal bone defects (one- to three-walled defects, furcation defects Class I and II)
- For filling extraction sockets for immediate or delayed implantation (socket preservation)

Product features

- Naturally long barrier function
- Low thickness
- Excellent tear resistance
- Very good surface adaption
- Not sticky after rehydration
- Can be pinned or sutured
- 3-year shelf life
- Can be stored at room temperature



SEM picture of Argonaut® at 1000-fold magnification

Bovine collagen membrane

Mem-Lok® RCM



Mem-Lok® RCM is manufactured from highly purified, type I bovine collagen. Clinicians can be confident that Mem-Lok® RCM will serve as an effective barrier membrane for bone regeneration. Mem-Lok® RCM supports graft stabilization and bone growth by providing soft tissue

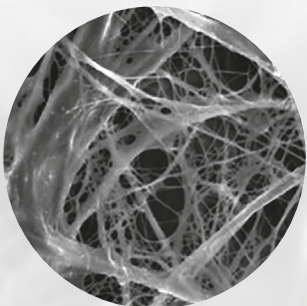
support and space maintenance over a predictable timeframe. It is manufactured to ensure predictable resorption rates. Due to its *in-vivo* stability, it enables easy handling in demanding indications.

Ideal for following indications

- Periodontal defects
- Extraction sockets
- Horizontal ridge enhancement
- Vertical ridge enhancement
- Sinus augmentation
- Dehiscence defects
- Immediate implantation

Product features

- Special handling characteristics [12]
 - Membrane only 0.3 mm thick, yet rigid
 - Easy to use due to dimensional stability
 - Easy placement since membrane is not side-specific
 - Potentially reduced treatment time thanks to easy fixation
 - Minimal hydration for optimal bio-adaptability
- Flexible, to meet clinical needs
 - Combined with MinerOss® X and/or MinerOss® XP, Mem-Lok® RCM maintains ideal space and long-term cell occlusion for maximum bone volume
 - Permeability permits the exchange of essential nutrients during healing
 - Easily adapts to whole range of bone defects
- Cell-occlusive for supporting bone regeneration
- Protecting the graft area from undesirable soft tissue infiltration during the initial healing phase
- Predictable resorption after 26 to 38 weeks [23] eliminates the need of a removal surgery



SEM picture of Mem-Lok® RCM

Synthetic PTFE membrane

PermaPro®



PermaPro® is an exceptionally thin, non-resorbable, temporary implantable and biocompatible membrane. It is composed of biologically inert, high-density polytetrafluoroethylene (PTFE), which acts as an efficient

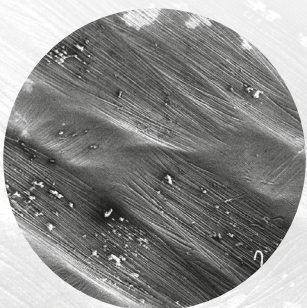
barrier against bacterial and cellular penetration, and can therefore be used for open healing in certain indications.

Ideal for following indications

- For the regeneration of extraction sockets (Socket und Ridge Preservation)
- For use as a space-creating barrier in guided bone regeneration (GBR) and guided tissue regeneration (GTR)
- For covering bone defects during surgical procedures in periodontology, oral and maxillofacial surgery, oral surgery, and implant dentistry

Product features

- 100 % synthetic PTFE barrier membrane
- Ultra-thin (approx. 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) [24, 25]
- Easy recovery thanks to blue color
- Rounded edges for minimal tissue trauma
- Easy fixation with sutures or pins
- Higher dimensional stability compared to commercially available collagen membranes
- Augmentation outside the ridge contour
- Synthetic nature – no religious or dietary conflicts
- Exposure – situations where primary wound closure is not desired (indication dependent)



SEM picture of PermaPro® at 30-fold magnification

Reconstructive Tissue Matrix

NovoMatrix®



NovoMatrix® is an acellular dermal matrix derived from porcine tissue. In surgical application, the tear-resistant and easy-to-handle [26,27] matrix is an excellent alternative to autologous connective tissue grafts (CTG). There is no need for an intraoral surgical donor site, which reduces morbidity for the patient.

Owing to the manufacturing process, the matrix is free of donor cells. At the same time, the structure of the source tissue remains virtually

unchanged, thus supporting the ingrowth of cells and micro-vessels. Proprietary tissue processing enables optimal cell repopulation and revascularization through gentle preparation, resulting in esthetic soft tissue regeneration [28]. NovoMatrix® is supplied pre-hydrated in a patented aqueous phosphate-buffered solution containing matrix stabilizers and can therefore be used promptly without requiring extensive rehydration [29].

Ideal for following indications [29]

- Increase in attached tissue around teeth and implants
- Reconstruction of the alveolar ridge for prosthetic restoration
- Guided tissue regeneration in recession defects for root coverage

Product features

- The LifeCell™ tissue preparation process results in rapid revascularization.
- Consistent tissue thickness at all times
- Pre-hydrated – ready-to-use out of the package following a 2-minute soak in sterile saline or lactated Ringer's solution [29]
- Store at -8 °C to +30 °C [29]

Advantages of NovoMatrix® application

Shorter surgery time

The ready-to-use collagen matrix shortens surgery time by eliminating the need for a second donor site [30].

Lower patient morbidity

Avoiding a donor site on the palate eliminates the post-operative pain associated with a second procedure [30–32].

Excellent tissue integration

The application of NovoMatrix® supports rapid revascularization, cellular repopulation and minimal inflammatory reactions [28, 33–35].

Natural tissue and color structure

The application of NovoMatrix® demonstrates irritation-free healing and very good adaptation of the color and tissue structure to the natural surrounding tissue [36].

Rapid and complication-free healing of soft tissue

The application of NovoMatrix® supports a positive immunological reaction as well as tissue integration and regeneration [28, 34, 35, 37].



Further information, videos and clinical case studies at www.biohorizonscamlog.com/novomatrix



Bovine collagen wound dressings

BioPlug and BioStrip



BioPlug and BioStrip are wound dressings made from bovine collagen. They are designed to absorb blood or fluids and to protect the wound, thus supporting optimal healing. Collagen supports the formation of the blood coagulum and contributes to a rapid stabilization of the wound

area [38]. Because of their haemostyptic effect, collagen wound dressings are used for the stabilization of extraction sockets and biopsy sampling points as well as in the treatment of smaller wounds.

BioPlug – applications include

- Extraction sockets
- Biopsy sites

BioStrip – applications include

- Closure of grafted sites
- Dressing of minor wounds

Product features

- Fully resorbable in 10 to 14 days
- 10 units per pack
- Packaged sterile

Bone fixation and membrane stabilization

truFIX System



The truFIX System, distributed by BioHorizons Camlog, offers you everything you need for the fixation of bone blocks and plates as well as the stabilization of membranes. This system incorporates all the

necessary components to pick up and drive the truSCREW and truTACK. The truFIX system eliminates the need for multiple systems and unnecessary components, making it user-friendly for your practice.

Product features

- True centered patented locking connection
- True axial alignment with pickup each time
- truSCREW: self-drilling screw developed for easy insertion with maximum fixation
- truSCREW: patented Removal Sleeve for disengaging the screw from the driver without damaging screw head
- truTACK: hexagon driver head and barbed tip to pierce without drilling for simple tack insertion and easy screw-like removal
- Easy insertion and easy screw-like removal of the truTACK

The truFIX System includes:

- 1 truFIX Tray (empty)
- 2 truFIX Driver Handle, 98 mm (3.875") long
- 3 truTACK Driver Tip (includes blue Tip Cover)
- 4 truSCREW Driver Tip
- 5 truSCREW Driver Removal Sleeve
- 6 truSCREW Driver Tip, Contra-Angle
- 7 CA 2-Step Countersink Bur, 0.8 mm and 1.6 mm Steps
- 8 1.1 mm Pilot Twist Drill, 29.8 mm
- 9 Pilot Bur, 0.45 mm, 27 mm long, Contra Angle
- 10 External Hex Hand Driver, 0.88 mm
- 11 truSCREW Packaging Removal Tool

(also available separately)

Optional:

truFIX Small Driver Handle, 89 mm (3.5") long

(sold separately)



truTACK, truSCREW and truTENT



The truTACK makes the stabilization of membranes quick and troublefree. Our unique tack incorporates a hexagon on its head and threads on its shaft, allowing for easy removal. The truTACK is placed like a tack and removed like a screw, a feature that you will not find in any other system.

The truSCREW, with its aggressive cutting flutes, is the ideal bone screw for the fixation of small bone within the oral and maxillofacial environment. These cutting flutes (in most instances) eliminate the need for any pre-drilling. The patented design of the screw ensures an effortless insertion into all types of bone.

The truTENT is a refinement of the truSCREW. Its raised collar and wider head is designed to support a membrane or titanium mesh during augmentation procedures.

truTACK – Bone Tacks (head Ø 2.5 mm)

- Thread Ø 0.7 mm / Total length 3.0 mm (pack of 10)
- Thread Ø 0.7 mm / Total length 5.0 mm (pack of 10)

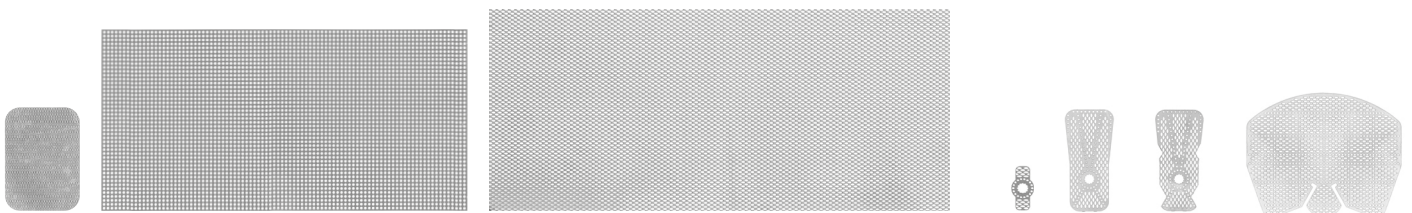
truSCREW – Bone Screws (head Ø 3.0 mm)

- Thread Ø 1.2 mm / Total length 4.5 mm (pack of 5)
- Thread Ø 1.2 mm / Total length 6.0 mm (pack of 5)
- Thread Ø 1.2 mm / Total length 7.5 mm (pack of 5)
- Thread Ø 1.2 mm / Total length 9.0 mm (pack of 5)
- Thread Ø 1.2 mm / Total length 10.5 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 6.0 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 7.5 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 9.0 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 10.5 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 12.0 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 13.5 mm (pack of 5)
- Thread Ø 1.5 mm / Total length 15.0 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 6.0 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 7.5 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 9.0 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 10.5 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 12.0 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 13.5 mm (pack of 5)
- Thread Ø 2.0 mm / Total length 15.0 mm (pack of 5)

truTENT – Tenting Screws (head Ø 5.0 mm)

- Thread Ø 1.5 / Total length 10.0 mm / Collar height 4.0 mm
- Thread Ø 1.5 / Total length 12.0 mm / Collar height 6.0 mm
- Thread Ø 1.5 / Total length 14.0 mm / Collar height 8.0 mm

Titanium Meshes



For the reconstruction of extensive combined bony alveolar ridge defects, the use of titanium meshes is advantageous. They serve as a cage to preserve the space created for the augmentate for regeneration. The meshes are adapted intraoperatively to the defect, filled with augmentation material and fixed in positionally stable with screws. They have no barrier function. The titanium meshes are available in different sizes and structures as flat meshes. Depending on the indication, implantation can be performed on one or two sides.

- Titanium Micro Mesh, 120 × 60 mm, 0.1 mm thick
- Titanium Micro Mesh, 34 × 25 mm, 0.1 mm thick
- Titanium Micro Mesh, 152 × 66 mm, 0.2 mm thick
- Titanium Single Butterfly Tenting Mesh, 30 × 80 mm, 0.25 mm thick
- Titanium Tenting Mesh, 13 × 33 mm, 0.2 mm thick
- Titanium Custom Tenting Mesh, 13 × 33 mm, 0.2 mm thick
- Titanium Tenting Mesh, 7 × 14 mm, 0.2 mm thick

Product overview

Bone graft substitutes

MinerOss® A Cancellous Granulate (human bone graft substitute)

Art. No.	Volume	Particle size
BM1007.1005	0.5 cm ³	250–1000 µm
BM1007.1010	1.0 cm ³	250–1000 µm
BM1007.1020	2.0 cm ³	250–1000 µm
BM1007.1040	4.0 cm ³	250–1000 µm

MinerOss® A Cortico-cancellous Granulate (human bone graft substitute)

Art. No.	Volume	Particle size
BM1008.1005	0.5 cm ³	250–1000 µm
BM1008.1010	1.0 cm ³	250–1000 µm
BM1008.1020	2.0 cm ³	250–1000 µm
BM1008.1040	4.0 cm ³	250–1000 µm

MinerOss® A Cancellous Block (human bone graft substitute)

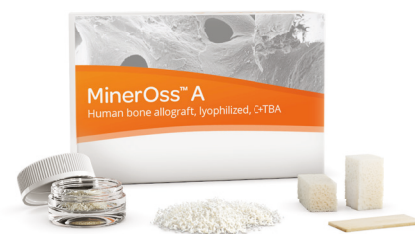
Art. No.	Product size
BM1010.1010	10 × 10 × 10 mm
BM1010.1020	10 × 10 × 20 mm

MinerOss® A Unicortical Block (human bone graft substitute)

Art. No.	Product size
BM1009.1010	10 × 10 × 10 mm
BM1009.1020	10 × 10 × 20 mm

MinerOss® A Cortical Strut (human bone graft substitute)

Art. No.	Product size
BM1010.1000	25 × 10 × 1 mm





MinerOss® XP Cancellous (porcine bone graft substitute)

Art. No.	Volume	Particle size
MINXP-CAN0.5SM	0.5 cm ³	250–1000 µm
MINXP-CAN1.0SM	1.0 cm ³	250–1000 µm
MINXP-CAN2.0SM	2.0 cm ³	250–1000 µm
MINXP-CAN4.0SM	4.0 cm ³	250–1000 µm
MINXP-CAN1.0LG	1.0 cm ³	1000–2000 µm
MINXP-CAN2.0LG	2.0 cm ³	1000–2000 µm



MinerOss® XP Cancellous Syringe (Applicator)

Art. No.	Volume	Particle size
MINXP-SYR0.5	0.5 cm ³	250–1000 µm



MinerOss® X Cancellous (bovine bone graft substitute)

Art. No.	Weight / Volume	Particle size
MINX-CAN0.25GR	0.25 g / 0.6 cm ³	250–1000 µm
MINX-CAN0.5GR	0.5 g / 1.2 cm ³	250–1000 µm
MINX-CAN1.0GR	1.0 g / 2.4 cm ³	250–1000 µm
MINX-CAN2.0GR	2.0 g / 4.7 cm ³	250–1000 µm
MINX-CAN0.25GRL	0.25 g / 0.9 cm ³	1000–2000 µm
MINX-CAN0.5GRL	0.5 g / 1.7 cm ³	1000–2000 µm
MINX-CAN1.0GRL	1.0 g / 3.4 cm ³	1000–2000 µm
MINX-CAN2.0GRL	2.0 g / 6.8 cm ³	1000–2000 µm



MinerOss® X Cancellous Syringe (Applicator)

Art. No.	Volume	Particle size
MINX-SYR0.5	0.5 cm ³	250–1000 µm

MinerOss® X Collagen (1 block 95 % MinerOss® X granulate + 5 % bovine collagen)

Art. No.	Product size
MINX-COLLAGEN-SM	6 × 7 × 8 mm
MINX-COLLAGEN-MED	8 × 9 × 9 mm
MINX-COLLAGEN-LG	10 × 11 × 12 mm

Product overview

Bone graft substitutes



CeraOss® (bovine bone graft substitute)

Art. No.	Volume	Particle size
BM1011.1005	0.5 cm ³	500–1000 µm
BM1011.1010	1.0 cm ³	500–1000 µm
BM1011.1020	2.0 cm ³	500–1000 µm
BM1011.1050	5.0 cm ³	500–1000 µm
BM1012.1005	0.5 cm ³	1000–2000 µm
BM1012.1010	1.0 cm ³	1000–2000 µm
BM1012.1020	2.0 cm ³	1000–2000 µm
BM1012.1050	5.0 cm ³	1000–2000 µm



SynMax® (synthetic bone graft substitute)

Art. No.	Volume	Particle size
BM1013.1005	0.5 cm ³	500–1000 µm
BM1013.1010	1.0 cm ³	500–1000 µm
BM1014.1005	0.5 cm ³	800–1500 µm
BM1014.1020	2.0 cm ³	800–1500 µm



Membranes



Mem-Lok® Pliable (porcine collagen membrane)

Art. No.	Product size
PBLE-ML1520	15 × 20 mm
PBLE-ML2030	20 × 30 mm
PBLE-ML3040	30 × 40 mm



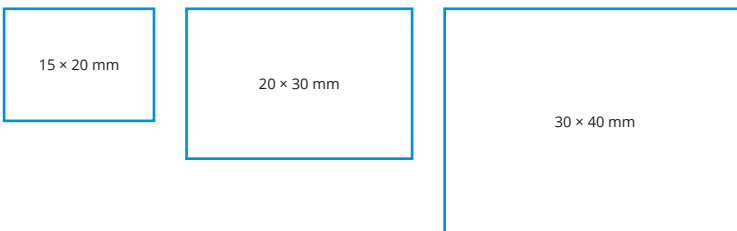
Argonaut® (bovine collagen membrane)

Art. No.	Product size
BM2004.1520	15 × 20 mm
BM2004.2030	20 × 30 mm
BM2004.3040	30 × 40 mm



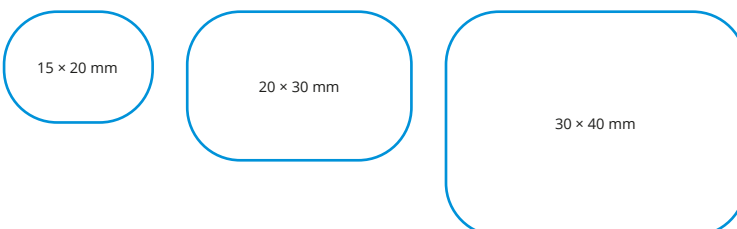
Mem-Lok® RCM (bovine collagen membrane)

Art. No.	Product size
RCM-ML1520	15 × 20 mm
RCM-ML2030	20 × 30 mm
RCM-ML3040	30 × 40 mm



PermaPro® (synthetic PTFE membrane)

Art. No.	Product size
BM2005.1520	15 × 20 mm
BM2005.2030	20 × 30 mm
BM2005.3040	30 × 40 mm



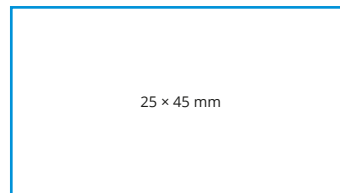
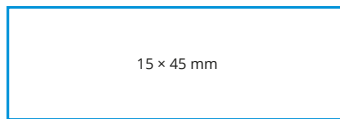
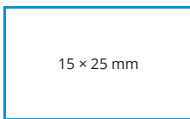
Product overview

Reconstructive tissue matrix



NovoMatrix® (porcine, acellular dermal matrix)

Art. No.	Product size
NOV1515	15 × 15 mm
NOV1525	15 × 25 mm
NOV1545	15 × 45 mm
NOV2545	25 × 45 mm

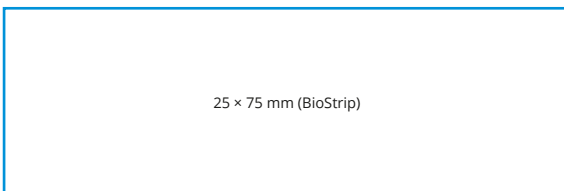


Wound dressings



BioPlug and BioStrip (bovine collagen wound dressings)

Art. No.	Product size	Pack size
BIOPLUG	10 × 20 mm	Pack of 10
BIOSTRIP	25 × 75 mm	Pack of 10



Bone fixation and membrane stabilization

truFIX System (complete)

Art. No.	Article
45418015	truFIX System (bestehend aus Tray / Instrumente 1-11)



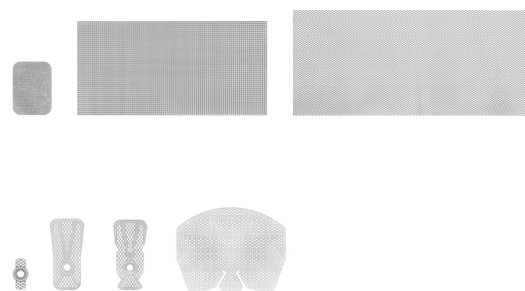
Tray / Instruments truFIX System

Art. No.	Article
45418501	1 truFIX Tray (empty)
45419001	2 truFIX Driver Handle, 98 mm (3.875") long
45417001	3 truTACK Driver Tip (includes blue Tip Cover)
45415001	4 truSCREW Driver Tip
45417901	5 truSCREW Driver Removal Sleeve
45415201	6 truSCREW Driver Tip, Contra-Angle
45440203	7 CA 2-Step Countersink Bur, 0.8 mm and 1.6 mm Steps
45440202	8 1.1 mm Pilot Twist Drill, 29.8 mm
502700045	9 Pilot Bur, 0.45 mm, 27 mm long, Contra Angle
20157702	10 External Hex Hand Driver, 0.88 mm
45450201	11 truSCREW Packaging Removal Tool
45419501	truFIX Small Driver Handle, 89 mm (3.5") long (optional)



Titanium Meshes (Grade 1, non-sterile, non-resorbable)

Art. No.	Article
39429	Titanium Micro Mesh, 34 × 25 mm, 0.1 mm thick
39430	Titanium Micro Mesh, 120 × 60 mm, 0.1 mm thick
39433	Titanium Micro Mesh, 152 × 66 mm, 0.2 mm thick
39434	Titanium Tenting Mesh, 7 × 14 mm, 0.2 mm thick
39440	Titanium Tenting Mesh, 13 × 33 mm, 0.2 mm thick
39442	Titanium Custom Tenting Mesh, 13 × 33 mm, 0.2 mm thick
39444	Titanium Single Butterfly Tenting Mesh, 30 × 80 mm, 0.2 mm thick



Product overview

Bone fixation and membrane stabilization

truTACK (Bone Tacks, head Ø 2.5 mm, sterile, single-use)

Art. No.	Thread Ø / Total length	Pack size
9600313	0.7 mm / 3.0 mm	Pack of 10
9600314	0.7 mm / 5.0 mm	Pack of 10



truSCREW (Bone Screws, head Ø 3.0 mm, sterile, single-use)

Art. No.	Thread Ø / Total length	Pack size
45427202	1.2 mm / 4.5 mm	Pack of 5
45427203	1.2 mm / 6.0 mm	Pack of 5
45427204	1.2 mm / 7.5 mm	Pack of 5
45427205	1.2 mm / 9.0 mm	Pack of 5
45427206	1.2 mm / 10.5 mm	Pack of 5
45427502	1.5 mm / 6.0 mm	Pack of 5
45427503	1.5 mm / 7.5 mm	Pack of 5
45427504	1.5 mm / 9.0 mm	Pack of 5
45427505	1.5 mm / 10.5 mm	Pack of 5
45427506	1.5 mm / 12.0 mm	Pack of 5
45427507	1.5 mm / 13.5 mm	Pack of 5
45427508	1.5 mm / 15.0 mm	Pack of 5
45428002	2.0 mm / 6.0 mm	Pack of 5
45428003	2.0 mm / 7.5 mm	Pack of 5
45428004	2.0 mm / 9.0 mm	Pack of 5
45428005	2.0 mm / 10.5 mm	Pack of 5
45428006	2.0 mm / 12.0 mm	Pack of 5
45428007	2.0 mm / 13.5 mm	Pack of 5
45428008	2.0 mm / 15.0 mm	Pack of 5



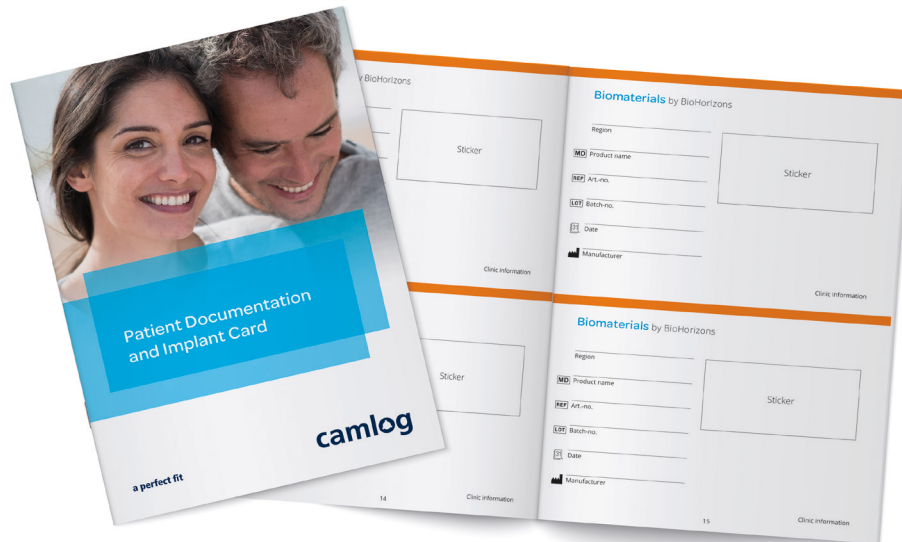
truTENT (Tenting Screws, head Ø 5.0 mm, sterile, single-use)

Art. No.	Thread Ø / Total length	Collar height
454391001	1.5 mm / 10.0 mm	4.0 mm
454391002	1.5 mm / 12.0 mm	6.0 mm
454391003	1.5 mm / 14.0 mm	8.0 mm



Implant pass

The implant pass documents that the patient received high-quality BioHorizons biomaterials from a highly trusted source: BioHorizons Camlog. In addition, it gives important information on behavior following implantation and on care of the prosthetic restoration.



References

- [1] Schmitt et al. Histological results after maxillary sinus augmentation with Straumann® BoneCeramic, Bio-Oss®, Puros®, and autologous bone. A randomized controlled clinical trial. *Clin Oral Implants Res.* 2013, 24, 576.
- [2] Solakoglu et al. Histological and immunohistochemical comparison of two different allogeneic bone grafting materials for alveolar ridge reconstruction: A prospective randomized trial in humans. *Clin Implant Dent Relat Res.* 2019, 21, 1002-1016.
- [3] Kloss et al. Customized allogeneic bone grafts for maxillary horizontal augmentation: A 5-year follow-up radiographic and histologic evaluation. *Clin Case Rep.* 2020, 8, 5.
- [4] Wen et al. Time analysis of alveolar ridge preservation using a combination of mineralized bone-plug and dense-polytetrafluoroethylene membrane: A histomorphometric study. *J Periodontol.* 2020 Feb;91(2):215-222.
- [5] Kloss et al. Comparison of allogeneic and autogenous bone grafts for augmentation of alveolar ridge defects—A 12-month retrospective radiographic evaluation. *Clin Oral Implants Res.* 2018, 29, 1163.
- [6] Data on file, Shu-Thung Li, Ph. D. et al.: Isolation and Characterization of a Porous Carbonate Apatite From Porcine Cancellous Bone. *Science, Technology, Innovation*, Aug. 2014: 1–13.
- [7] Spense G, Patel N, Brooks R, Rushton N: Osteoclastogenesis on hydroxyapatite ceramics: the effect of carbonate substitution. *J Biomed Mater Res A.*, Mar 15, 2010; 92(4):1292–300.
- [8] Ellies LG, Carter JM, Natiella JR, Featherstone JDB, Nelson DGA: Quantitative Analysis of Early In Vivo Tissue Response to Synthetic Apatite Implants. *J Biomed Mater Res*, 1988, Res 22:137–148.
- [9] Landi E, Celotti G, Logroscino G, Tampieri A: Carbonated Hydroxyapatite as Bone Substitute. *Journal of the European Ceramic Society*, 2003, 23:2931–2937.
- [10] Spense G, Patel N, Brooks R, Rushton N: Carbonate Substituted Hydroxyapatite: Resorption by Osteoclasts Modifies the Osteoblastic Response. *Journal of Biomedical Materials Research*, 2009, Part A 217–224.
- [11] Shu-Tung Li, Hui-Chen Chen and Debbie Yuen: Comparison of a New Natural Bovine Bone Mineral (Carbonate Apatite Anorganic Bone) to Currently Marketed NuOss™ and Bio-Oss®: In Vitro and In Vivo Evaluations. *Collagen Matrix, Inc., Oakland, New Jersey 07436.*
- [12] Gonsior A, Chris L Tye: Evaluation of Anorganic Bovine Bone Mineral in Post-extraction Alveolar Sockets: A Case Series. *Journal of Osseointegration*, March 2010; 1(2).
- [13] Riachi et al. Influence of material properties on rate of resorption of two bone graft materials after sinus lift using radiographic assessment. *International journal of dentistry*, Vol. 2012, p. 737262.
- [14] Lorean et al. Nasal floor elevation combined with dental implant placement: a long-term report of up to 86 months. *Int J Oral Maxillofac Implants* 29 (3), 705-708. May-Jun 2014.
- [15] Tawil et al. Sinus Floor Elevation Using the Lateral Approach and Bone Window Repositioning I: Clinical and Radiographic Results in 102 Consecutively Treated Patients Followed from 1 to 5 Years. *Int J Oral Maxillofac Implants.* 2016 Jul-Aug;31(4):827-34.
- [16] Binderman et al. *Tissue Engineering of Bone: Critical Evaluation of Scaffold Selection.* Haim Tal, IntechOpen. April 4th 2012.
- [17] Jelusic et al. Monophasic β -TCP vs. biphasic HA/ β -TCP in two-stage sinus floor augmentation procedures - a prospective randomized clinical trial. *Clin Oral Implants Res.* 2017 Oct;28(10):e175-e183.
- [18] Lorenz et al. Investigation of peri-implant tissue conditions and peri-implant tissue stability in implants placed with simultaneous augmentation procedure: a 3-year retrospective follow-up analysis of a newly developed bone level implant system. *Int J Implant Dent.* 2017 Sep 5;3(1):41.
- [19] Data on file, Li ST, Yuen D, Martin D, Lee NS: A comparative study of a new porcine collagen membrane to BioGide®. *Science, Technology, Innovation.* February 1–5, 2015.
- [20] Rothamel et al. Biocompatibility and biodegradation of a native porcine pericardium membrane: results of in vitro and in vivo examinations. *Int J Oral Maxillofac Implants.* 2012 27(1):146-54.
- [21] Barbeck et al. Porcine Dermis and Pericardium-Based, Non-Cross-Linked Materials Induce Multinucleated Giant Cells After Their In Vivo Implantation: A Physiological Reaction? *J Oral Implantol.* 2015 41(6):e267-81.
- [22] Kloss et al. Comparison of allogeneic and autogenous bone grafts for augmentation of alveolar ridge defects-A 12-month retrospective radiographic evaluation. *Clin Oral Impl Res.* 2018 29:1163–1175.
- [23] Data on file, Debbie Yuen et al.: Prediction of in vivo stability of a resorbable, reconstituted type I collagen membrane by in vitro methods. *World Biomaterials Congress Transactions, Sixth World Biomaterials Congress Transactions.* Collagen Matrix Inc., Franklin Lakes, NJ 07417 USA
- [24] Zafiropoulos et al. Open-Healing Socket Preservation with a Novel Dense Polytetrafluoroethylene (dPTFE) Membrane: A Retrospective Clinical Study. *Medicina (Kaunas).* 2020 Apr 28;56(5):216.
- [25] Papi et al. The Use of a Non-Absorbable Membrane as an Occlusive Barrier for Alveolar Ridge Preservation: A One Year Follow-Up Prospective Cohort Study. *Antibiotics (Basel).* 2020 Mar 3;9(3):110.
- [26] Data on file, Allergan. NovoMatrix™ – Mechanical testing, Preclinical Data.
- [27] Data on file, Allergan. INT/0204/2018.
- [28] Suárez-López Del Amo F, Rodriguez JC, Asa'ad F, Wang HL. Comparison of two soft tissue substitutes for the treatment of gingival recession defects: an animal histological study. *J Appl Oral Sci.*, 2019;27:e20180584.
- [29] Reference manufacturer's Instructions for Use (IFU) package insert.
- [30] Griffin T, Cheung W, Athanasios Z, Damoulis P. Postoperative Complications Following Gingival Augmentation Procedures. *J Periodontology* 2006;77:2070-2079.
- [31] Aguirre-Zorzano LA, García-De La Fuente AM, Estefanía-Fresco R, Marichalar-Mendía X. Complications of harvesting a connective tissue graft from the palate. A retrospective study and description of a new technique. *J Clin Exp Dent.* 2017;9(12):e1439-45.
- [32] Tavelli L, Asa'ad F, Acunzo R, Pagni G, Consonni D, Rasperini G. Minimizing Patient Morbidity Following Palatal Gingival Harvesting: A Randomized Controlled Clinical Study. *The International Journal of Periodontics & Restorative Dentistry* 38(6):e127-e134 · November 2018.
- [33] Harper JR, McQuillan DJ. Extracellular wound matrices: a novel regenerative tissue matrix (RTM) technology for connective tissue reconstruction. *Wounds.* 2007;19(6):163-168.
- [34] Sandor M, Leamy P, Assan P, et al. Relevant in vitro predictors of human acellular dermal matrix-associated inflammation and capsule formation in a nonhuman primate subcutaneous tissue expander model. *Eplasty.* 2017;17:e1-e21.
- [35] Xu H, Wan H, Sandor M, et al. Host response to human acellular dermal matrix transplantation in a primate model abdominal wall repair. *Tissue Eng Part A.* 2008;14(2):2009-2019.
- [36] Van Orten A. Peri-implant thickening of soft tissue – stable and functional. *Implantologie Journal* 5 | 2020.
- [37] Sandor M, Xu H, Connor J, et al. Host response to implanted porcine-derived biologic materials in a primate model of abdominal wall repair. *Tissue Eng Part A.* 2008;14(12):2021-2031.
- [38] Nuytens BP et al. Platelet adhesion to collagen. *Thromb Res.* 2011 Jan; 127.

Customer number:

--	--	--	--	--	--

Distributor

CAMLOG | Pro-Cam Implants B.V. | Vijzelmolenlaan 1 | 3447 GX Woerden | Netherlands
info@camlog.nl | www.camlog.nl

Customer Service

Phone +31 (348) 820010 | Fax +31 (348) 820011 | bestelling@camlog.nl

Headquarters

CAMLOG Biotechnologies GmbH | Margarethenstr. 38 | 4053 Basel | Switzerland
Phone +41 61 565 41 00 | Fax +41 61 565 41 01 | info@camlog.com | www.camlog.com

MinerOss® X, MinerOss® XP, Mem-Lok® RCM, Mem-Lok® Pliable, BioPlug and BioStrip are manufactured by Collagen Matrix, Inc. MinerOss® A is manufactured by C+TBA. CeraOss®, SynMax®, Argonaut® and PermaPro® are manufactured by botiss biomaterials GmbH. NovoMatrix® is manufactured by LifeCell™ Corporation, an Allergan affiliate. truFIX, truTACK, truSCREW, truTENT and the Titanium Meshes are manufactured by ACE Surgical Supply Co., Inc. BioHorizons®, MinerOss®, Mem-Lok® and NovoMatrix® are registered trademarks of BioHorizons. CeraOss®, SynMax®, Argonaut®, PermaPro® and DEDICAM® are registered trademarks of CAMLOG Biotechnologies GmbH. They may, however, not be registered in all markets. BioHorizons and MinerOss® A products are approved for sale in the European Union in accordance with pharmaceutical legislation, the Medical Device Directive 93/42/EEC (and where applicable, Regulation 2017/745) and the Human Tissues and Cells Directive 2004/23/EC, respectively. We are registered to ISO 13485:2016, the international quality management system standard for medical devices, which supports and maintains our product licenses with Health Canada and in other markets around the globe. All rights reserved. Not all products shown or described in this literature are available in all countries.