BIOMATERIALS
Product Catalog

Bionnovation
implants and biomaterials

Engineering for the perfect smile!

COMPANY

The Innovation with Quality

Bionnovation is a Brazilian company specialized in Biomaterials, offering advanced solutions for the replacement of Dental Elements and reconstruction of tissues. With more than 12 years of clinical and scientific knowledge this division of the company commitment to bring the benefits of dental implants accessible to all patients regardless of their bone structure.

The main mission of the company is to offer patients advanced features and innovative solutions bringing back the keys functions of the tooth structure and consequently the smile and well-being of everyone in these conditions. Bionnovation has invested in a full line of Biomaterials, keeping a line of products which include: biomaterials composed of bovine grafts, synthetic grafts, non-resorbable synthetic barriers and the titanium mesh.

Developed with cutting-edge technology, the accuracy, strict Quality Control, clinical and scientific testing provide for elevated results in clinical and aesthetic performance.

Bionnovation Clinical Solutions with excellent results, high success rate, and low discomfort to patients.

The Tests and Analyzes

Bionnovation has identified the specific procedures in manufacturing stages and throughout clinical and scientific testing which have been the basis to evaluate control and validation of each product. These tests and the clinical performance all ensure that the products available are in accordance to international standards and designed to meet their performance.

For each biomaterials, biocompatibility, genotoxicity, carcinogenicity and systemic toxicity tests are performed specifically evaluating the of irritation sensitivity post-implant and local effects according to ISO 10993 - Biological Evaluation of Medical devices.

The identification of the phases present in Biomaterials is Provided by the X-ray diffraction test.

Research & Development

Bionnovation is committed to quality and continuous improvement of its products and hence is always in search of upgrading and innovating in its scientific methods and techniques, having in view the most current trends of dentistry.

In this context, we have created a Program to encourage the research, with the objective of encouraging and supporting the researchers, so that they can use our products in their researches.

For more information, contact us via our website or e-mail address bionnovation@bionnovation.com.br

PRODUCT LINE

Bovine Bone Dense

Bonefill®
Granulated

NEW

Bovine Bone Porous

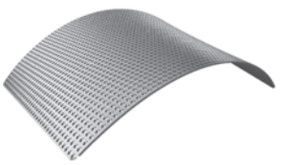
Bonefill® Porous
Granulated / Block

Synthetic Graft

Hydroxyapatite
Granulated / Block

Synthetic Graft

Beta TCP
Granulated



Titanium Mesh

Surgitime
Titanium

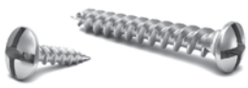
NEW

Titanium Foil

Surgitime
Titanium Seal

Polytetraflouroethylene Membrane

Surgitime
PTFE



Fixation Set & Screws

"We innovate to achieve the highest quality and technology possible in as Biomaterial."

BONEFILL® Bovine Bone Graft

Bonefill is available in both Cancellous and Cortical. Granules and various particle sizes and vial volumes.

Bonefill (Dense & Porous)

A natural, porous bone mineral matrix, produced by the removal of all organic components from bovine bone. Due to its natural structure, Bonefill is physically and chemically comparable to the mineralized matrix of human bone.

Natural

Bonefill is a natural hydroxyapatite extracted from bovine bone.

Safe

All Bonefill bone replacements of bovine origin are manufactured with bones of animals from the Brazilian herd tracked by the SISBOV system. As per the geographic risk regulations issued by the International Zoosanitary Code and the Scientific Steering Committee of the European Union (SSCEC of August 2005), Brazil is Bovine Spongiform Encephalopathy (BSE)-free. However , according to Administrative Rule 516/97 even Brazil declaring itself Bovine Spongiform Encephalopathy-free, the processing to which the products are submitted are known to effectively inactivate the BSE agent, and the animals used to manufacture Bonefill products are registered in the Brazilian bovine and bubaline traceability system - SISBOV, every product of bovine origin, even remotely, carries a risk of transmitting BSE.

Purified

Bonefill undergoes a proprietary multi-step purification process that removes organic content from the bone.

This process results in Bonefill being chemically and structurally comparable to mineralized human bone (nanocrystalline natural apatite). In addition, Bonefill has been shown to be biocompatible. Bonefill is supplied STERILE (Gamma Radiation 25 kGy).

Multi-Porosity
Bonefill Porous having a structure comprised of a combination macropores and micropores.

BONEFILL POROUS Is a naturally derived osteoconductive hyrdroxyapatite graft material that has been obtained from a bovine source.

An additional benefit provided by this interconnected porous structure is that if provides Bonefill Porous with a larger surface area than some comparable products currently in the market. This provides for additional area to support new bone deposits while also making Bonefill Porous a highly hydrophilic grafting material.

Bovine Bone Graft Types

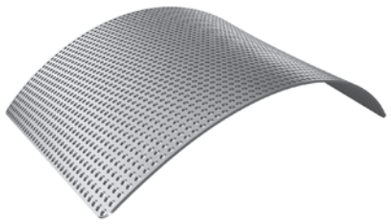
Bonefill [0,10 - 0,60 mm] (Fine) - 0,5g • 0,5 cc (Dense)	16001
Bonefill [0,60 - 1,50 mm] (Medium) - 0,5g • 0,5 cc (Dense)	16024
Bonefill [1,50 - 2,50 mm] (Large) - 0,5g • 0,5 cc (Dense)	16026
Bonefill [0,60 - 1,50 mm] (Medium) - 2,5g • 3,0 cc (Dense)	16042
Bonefill [0,10 - 0,60 mm] (Fine) - 2,5g • 2,5 cc (Dense)	16043
Bonefill Porous [0,10 - 0,60 mm] (Fine) - 1,0g • 1,5 cc (Porous)	16891
Bonefill Porous [0,60 - 1,50 mm] (Medium) - 1,0g • 2,5 cc (Porous)	16892
Bonefill Porous [1,50 - 2,50 mm] (Large) - 1,0g • 3,0 cc (Porous)	16893
Bonefill Block (5 x 10 x 10 mm)	16495
Bonefill Block (5 x 20 x 20 mm)	16498

Features and Benefits

- Excellent alternative to autograft and allograft bone;
- Porous structure allows the penetration of tissue;
- Providing slow absorption increased stability tissue;
- Storage at room temperature;
- Safe and Sterile;
- 100% Natural;
- Safe, Biocompatible;
- Highly Purified;
- Large Inner Surface Area;
- Multi-Porosity.

SURGITIME TITANIUM Titanium Mesh

Titanium Surgitime is a non-absorbable titanium mesh made of pure Titanium (ASTM F-67). It comes in many different lengths, widths, thicknesses and hole diameters, in order to fulfill many different clinical needs. Titanium Surgitime is furnished in STERILE form (25 kGy Gama Radiation), provided the packaging's integrity has not been hampered.



Advantages

- Easy to handle to the surgical sites
- Supple
- No trauma on soft tissue
- Proper containment of the bone graft
- Improve space for bone regeneration
- Ultra thin (0,04mm and 0,08mm)
- Biocompatible
- Grade 1 titanium

Titanium Mesh Sizes

Surgitime Titanium 34 x 25 mm • Thickness 0,04 mm / Round hole 0,15 mm	16565
Surgitime Titanium 34 x 25 mm • Thickness 0,04 mm / Round hole 0,85 mm	16472
Surgitime Titanium 34 x 25 mm • Thickness 0,08 mm / Round hole 0,85 mm	16698

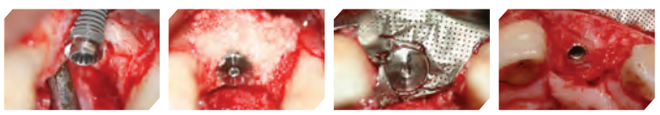
Benefits

The titanium mesh provides excellent biocompatibility, and occlusive property, and it is permeable thus enabling the transmission of nutrients, and easy utilization because it is highly malleable and can be cut for surgical site adaptations, having the capacity to ensure an unadulterated regenerative space and the possibility of graft vascularization on both sides (periosteum and endosseous). It has been designed to ensure a tridimensional reconstruction of alveolar bone defects and to facilitate bone replacement through the replacement material's adequate fixation.

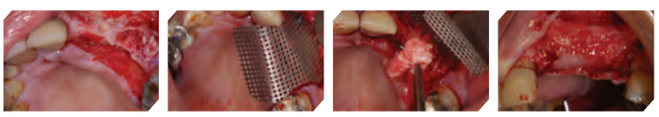
Purpose

It assists bone neoformation, acting as a barrier hindering the migration of epithelial cells and of the conjunctive tissue, thus avoiding competition with the bone graft.

Surgitime Titanium being used to secure graft material



Clinical Case by
Helder Valiense, DDS, MS
Ilhéus • Bahia • Brazil



Clinical Case by
Edgard Franco DDS, MS
Bauru • SP • Brazil

Compatible with bone tacks & bone screws

SURGITIME TITANIUM SEAL Titanium Foil

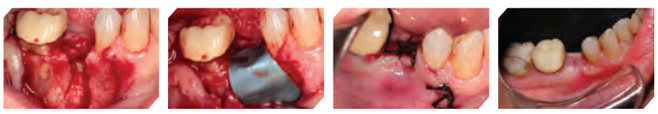
Surgitime Titanium SEAL (Titanium-Foil) are ideal for three-dimensional bone regeneration (GBR, Guided Bone Regeneration). If necessary, they can be secured with a matched easy-to-handle fixation system.

NEW

Titanium Seal Sizes

Surgitime Titanium SEAL 34 x 25 mm • Thickness 0,04 mm • Titanium Foil	16890

Guided bone regeneration beneath titanium foils



Clinical Case by
Fabio Mizutani, DDS, MS
São Paulo • SP • Brazil

Material

Titanium-Foils – 0,04mm thickness.

Safety

Titanium is a safe material with an excellent track record in all surgical procedures.

Product Benefits and Strengths

The Surgitime Titanium SEAL (Titanium-Foil) provides microstability. Its surface is electropassivated chemically, so that it is bioelectrically neutral. Impermeable, it performs well even when exposed. The Surgitime Titanium SEAL is very flexible and can be used for covering periodontal defects or extraction sockets. It usually does not need fixation.

Clinical Procedure (Three-dimensional Augmentation)

The foil is trimmed to size with the edges carefully rounded, bent to shape by prestressing and secured with Bionnovation Bone Screws usually in the vestibulum. Foils can also be used in an exposed position as they are impermeable so that they protect the grafting material. On completion of treatment the pins are simply unscrewed and removed.

Handling Benefits

The fully impermeable Titanium-Foil is prestressable, stable and acts as a space maker, e.g. for alveolar ridge augmentation. Surgitime Titanium SEAL neutral bioelectrically thanks to electrochemical passivation and thus contribute to an uneventful growth of new bone.

SURGITIME PTFE Non-Absorbable Porous Ptfe Membrane

Surgitime PTFE is a synthetic non-absorbable membrane that is 100% biocompatible and not derived from animal source. This membrane is considered to be a barrier for tissue regeneration. It is indicated for regeneration procedures. Polytetraflouroethylene (PTFE) membranes or mechanical barriers for Guided Tissue Regeneration (GTR) are used to prevent migration of cells from epithelial and connective tissues, what would cause bone growth inhibition, thus providing a proper space for the formation of a natural fibrin structure, which is the bone tissue precursor. The membrane provides a space between the flap and the bone tissue and its tissue isolating property promotes tissue growth.

Surgitime PTFE are a high-density sheet with a surface structure and porosity suitable toprevent integration and passage of bacteria within the interstices of the material, and simultaneously facilitate adhesion of host cells to the material.

Indications

Surgitime PTFE is used in regenerative techniques of periodontics, implantology or any surgical procedure requiring a mechanical barrier, such as the treatment of horizontal and vertical periodontal defects, formation of new bone in alveolar ridges, protection against epithelial invagination in sinus lift procedures and formation of proximal areas around dental implants. For better adaptation to the receiving site can also be molded by using scissors or a sterile scalpel.

PTFE Membrane (Polytetraflouroethylene) Sizes

Surgitime PTFE 30 x 20 mm - Thickness 0,10 mm	16021
Surgitime PTFE 30 x 20 mm - Thickness 0,25 mm	16044

HYDROXYAPATITE Synthetic Graft

Description

Hydroxyapatite Ca10 (PO4)6(OH) 2 is the main mineral element of teeth's enamel and bones. Bionnovation's Hydroxyapatite is manufactured from Calcium Hydroxide and Phosphoric Acid, resulting in radiopaque particles of multiple sizes, which help the development of bone cells. When in contact with the recipient bone matrix they behave as a bone support, facilitating migration of the recipient capillaries and cells, in order to differentiate within this calcified structure, favoring osteo-conduction of new bone tissue forming cells.

Method of Action

When agglutinated, particularly with the patient's own blood, the result is an adequate mineral material for the endothelial proliferation and invasion, with material conductivity features that favor the migration of bone formation cells – which differ due to contact with apatite, the mineral part of bones.

Indications

Hydroxyapatite-based biomaterials have been largely used as bone replacement. Hydroxyapatite is a bone graft material successfully used in cranium maxilla- facial and dental surgeries, it is also used for bone grafts around dental implants, and bone edge height and width enhancement for implants.

Synthetic Graft Types

Hydroxyapatite 0,05 - 0,10 mm - 0,5 g	16028
Hydroxyapatite 0,35 - 0,40 mm - 0,5 g	16029
Hydroxyapatite 0,50 - 0,60 mm - 0,5 g	16030
Hydroxyapatite 0,70 - 0,80 mm - 0,5 g	16031
Hydroxyapatite 0,90 - 1,00 mm - 0,5 g	16032
Hydroxyapatite 1,41mm - 0,5 g	16033
Hydroxyapatite 1,71 mm (10 mesh) 1,0g	16035
Hydroxyapatite Block (5 x 10 x 10 mm)	16437
Hydroxyapatite Block (10 x 10 x 20 mm)	16441

Features and Benefits

- Excellent alternative to autograft and allograft bone;
- Porous structure allows the penetration of tissue;
- Providing slow absorption increased stability tissue;
- Storage at room temperature;
- Safe and Sterile.

β - TriCalcium Phosphate Synthetic Graft

ß-TriCalcium Phosphate Bone Regeneration Material with Advanced Porosity

Bionnovation ßeta TCP is an osteoconductive, pure-phase ß-Tricalcium phosphate (Ca3(PO4)2), synthetic and reabsorbable granulated ceramic, made from Calcium Hydroxide (Ca(OH)2), Phosphoric Acid (H3PO4).

Bone grafting material developed via a process that creates a porous structure most similar to human bone. The interconnecting micro & macro porous structure gives the advantage of allowing vascularization and cell transport into and throughout the particle, leading to new bone deposits within the particles themselves. This results in highly-predictable bone formation.

Indications

ß-TriCalcium Phosphate is a synthetic bioceramic, which can be used for regenerative techniques in Periodontics, Implantology, Orthopedics or Medical Surgical procedures that require bone tissue formation. It is a bone grafting biomaterial, designed for the filling and/or reconstruction of bone wall defects, whether traumatic or degenerative, floor elevation, increase of stunted alveolar crystals, periodontal or alveolar bone filling, dental alveoli and osteotomies.

Synthetic Graft - Granulated

β - TriCalcium Phosphate 0,10 - 0,50 mm - 0,5 g	16057

FIXATION SET Screws & Instruments

Kit - 13118

Bionnovation Graft and Fixation Screw is a surgically-inserted medical and dental device used on bone graft surgery for the fixation of grafts and membranes on the maxilla or mandible.

• The screws are temporary, and they only remain within the bone repair period, as its purpose is to keep either the graft or the membrane in position and not for the purpose of osseo-integration;

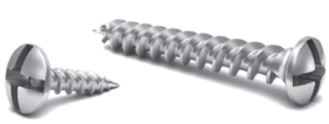
• Self-tapping;

• It has a conic edge, cylindrical shaped body and cross-fit head and it is intended for the fixation of bone grafts and membranes.

Set Pieces

Driver Handle	13066
Philips Connection for Manual Drive (Ratchet) Short	13129
Philips Connection for Manual Drive (Ratchet) Long	13130
Twist Drill - Ø 1,0 x 15 mm	05051
Twist Drill - Ø 1,2 x 15 mm	05053
Twist Drill - Ø 1,4 x 15 mm	05055
Twist Drill - Ø 1,6 x 15 mm	05057
Philips Connection for Contra Angle Short	13132
Philips Connection for Contra Angle Long	13133
Installation rod - 70 mm	13127
Screwdriver handle	13085

Bone Screws



	Ø 1,2 mm	*Ø 1,4 mm*	*Ø 1,6 mm*	*Ø 1,8 mm*
4 mm	07098	07145	07191	07236
6 mm	07092	07090	07093	07238
8 mm	07101	07148	07194	07240
10 mm	07103	07150	07094	07242
12 mm	07105	07152	07095	07244
14 mm	07107	07191	07198	07246

Autorized Dealer

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