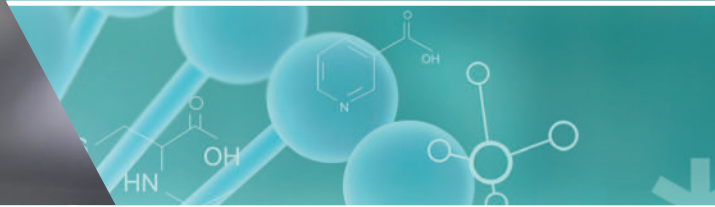
# powerbone®

pioneer of health




for website

CE 01.26/REV26/16.10.2024

BONEGRAFT®

BIOMATERIALS

# INDEX

# POWERBONE

## A biotechnology company that focuses on the development, manufacturing and marketing of innovative and functional biomaterials.

Powerbone Biomaterials Co. is one of the leading company in the world that can produce osteoinductive and osteoconductive synthetic bone graft materials, barrier membrane, bone cement and cartilage graft.

## Powerbone R&D activites take place at Ege University Technology Development Centre under ISO-7 (Class 10000). Since 2016 production to ISO-5, ISO 6 and ISO-7 (Class 100,1000,10,000) conditions takes place in Manisa.

In addition to expert employees, high technology and strong capital, Powerbone Biomaterials customer service exceeds Internationally recognised quality and management standards.

# VISION-MISSION

## Our Vision;

Our aims are to become a globally competitive and respected biomaterials company that draws attention to developed strategic innovations and to bring the name and power of our country in the field of biomaterials manufacturing to the top.

## Our Mission;

To have the widest and most innovative biomaterials range in the field of orthopedic, spine, trauma, and dental surgeries with the maximum investment power to R&D studies.

# R&D-Oriented Production

## Production

Powerbone's modern production facility is electronically controlled. Multiple production parameters are observed in real time 24/7 according to ISO7 standard. The production areas ar monitored according to ISO14644 Class 10.000 and Fed.Std.209 D, ISO5. ISO 14644 is applied to the clean rooms and packaging areas to Fed.Std.209D

All raw materials and equipment used in production processes are supplied from European and American companies with the highest technological standards.

### TSE approved TS EN ISO 13485 Quality Management System

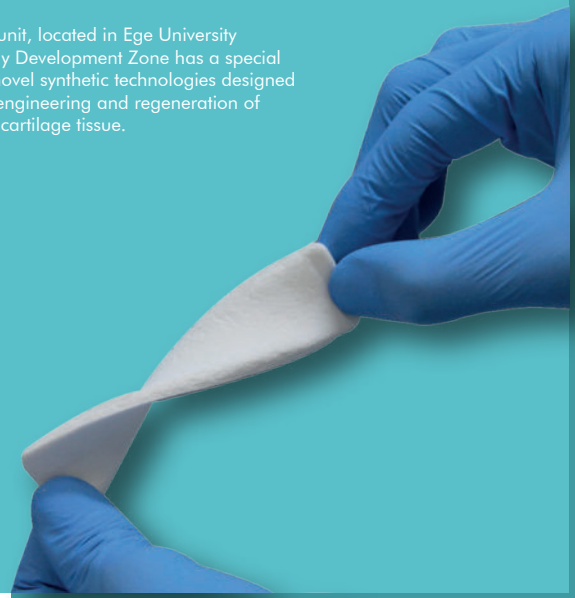
Our products bear the CE mark as Class III Medical Device, in which the highest level of safety standards are applied to the production conditions. Product quality control tests are carried out in reputable universities and test organizations in Turkey and abroad.

## Quality

Quality control is carried out in accordance with production instructions using measurement devices unique to each specific medical device.

## R&D

Our R&D unit, located in Ege University Technology Development Zone has a special focus on novel synthetic technologies designed for tissue engineering and regeneration of bone and cartilage tissue.



# BIOMATERIAL INNOVATION REPLACED BY NEW BONE

- Innovative Flexible Bone Graft
- Connected high pore structure, cross-section of bone grafts for different geometries and sizes
- Bone graft in injectable form that does not require mixing

# CERTIFICATES



CE

- ISO - 13485
- ISO 9001
- CE Certificates for each product groups



# PRODUCTS

# SILICATE ADDITIVE GRANULES

## Osteoconductive and Osteoinductive

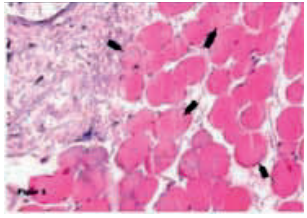
- The high porosity of Powerbone products support initial clot stabilisation.
- Calcium phosphate provides a conductive scaffold for blood vessels and bone stimulating cells - a structure very similar to the mineral component of natural bone.
- Powerbone materials include silicate which increases circulating protein retention giving bioactive characteristics to the graft.

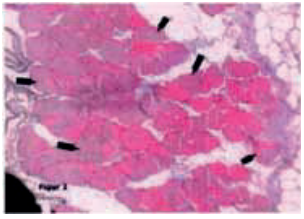
## Safe, Biocompatible and Sterile

Powerbone grafts are supplied sterile and CE marked as a Class III Medical Device according to 93/42 / EC directive. Biocompatibility (in vitro and in vivo), biodegradation, bioburden and sterility tests are applied to each material.

## Radiopaque

CT and X-ray traceability is possible.





## Biodegradable

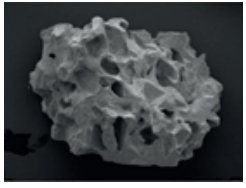
Biodegradable with Full Resorption. With its optimized porous structure and chemical composition, Powerbone grafts are optimised for bone healing. During the healing process, silicate is adsorbed first followed by the ß-TCP scaffold in 4-6 months promoting replacement with native new bone.

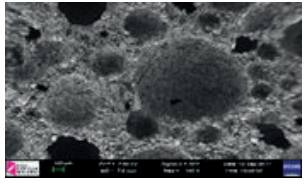
For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# BIPHASIC GRANULE (90% HA 10% β-TCP)

## Osteoconductive and Osteoinductive

- Shelf life is 5 years.
- The product is produced by Powerbone who is a manufacturer the ISO 13485 Quality Management System Certificate obtained from the accredited institution.
- Biphasic Granule is biocompatible with human tissue.
- Biphasic Granule is osteoconductive and osteoinductive.
- Biphasic Granule is must be sterilized by the Gamma irritation method.
- Biphasic Granule is similar structure to the mineral present in the bone.





- Powerbone Biphasic bone graft pore structure and composition is optimised for new bone regeneration and long term volume preservation.
- While the granule containing only β-TCP degrades in 6-12 months during the healing process, in the combination of 90% HA and 10% β-TCP, β-TCP degrades first and then HA, this process takes 12-18 months and supports bone formation.

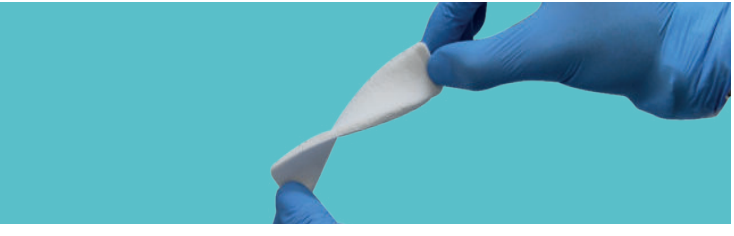

The combination of 90% HA and 10% β-TCP allows the degradation kinetics to be adjusted in vitro and in vivo. Elicits similar responses to in vitro and in vivo responses by bone and promotes cell attachment, proliferation, and expression. The combination of 90% HA and 10% β-TCP has been successfully used in many clinical situations such as repair of bone defects, bone augmentation in spinal arthrodesis, periodontal treatment, or coating for metallic implants.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# FLEXIBLE STRIP / GRAFT

Powerbone Flexible Strip is a biodegradable synthetic graft that is easy to use due to its high elasticity, especially in bone/tissue defects of the orthopedic pelvis and lower extremities as well as posteriolateral spinal fusion cases.

Powerbone Flexible Strip consists of silicate-added B-TCP embedded inside a PLA based synthetic polymer lattice of varying thicknesses. Osteoinductive characteristic are achieved through the addition of silicate to the embedded Powerbone graft material.



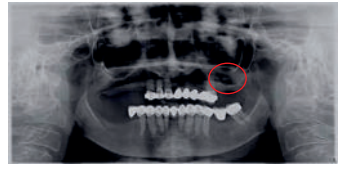
For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

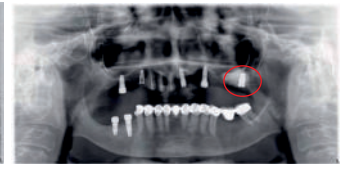
Powerbone Flexible Strip Implantation;

- Powerbone Flexible Strip can be applied to the surgical area directly or combined with bone marrow aspirate or blood.
- When wetted the flexibility of Powerbone Flexible Strip increases significantly.
- Powerbone Flexible Strip must be implanted just before all metallic implants (dental&spinal&orthopedics) are stabilized and the surgical site is closed.
- Powerbone Flexible Strip can be cut and placed in the spinal fusion cages and devices bent.
- Powerbone Flexible Strip gains osteoinductive characteristic due to silicate addition to the product content.
- For dental usage the indications are limited with lateral augmentation, ridge augmantation, on lay graft technique and sandwich technique.

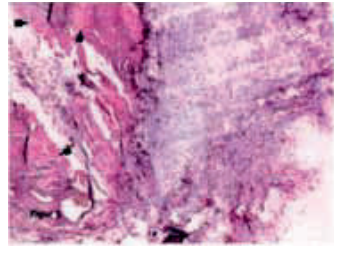
# SILICATE ADDITIVE PUTTY & DENTAL PUTTY

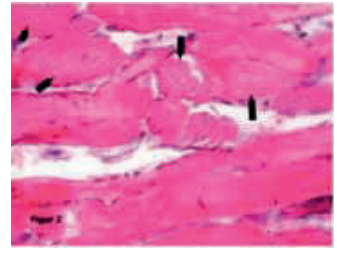
- Minimally invasive surgical application
- Quick and easy application. Does not require mixing.
- Accelerates Bone formation.





- Designed for the healthy development of bone and periodontal support tissue.

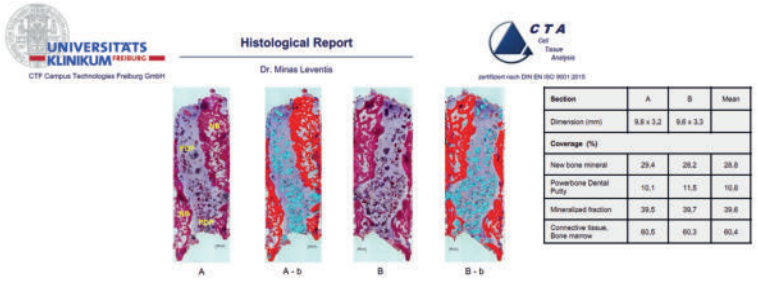




- Composed of silicate added B-TCP and resorbable cellulose carriers of varying viscosities.
- Powerbone syringe delivered grafts gains osteoinductive properties due to silicate addition.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# HISTOLOGIES OF DENTAL PUTTY




| Section | A | B | Mean |
|---|---|---|---|
| Dimension (mm) | 9.6 x 3.2 | 9.6 x 3.3 | |
| Coverage (%) | | | |
| New bone mineral | 29.4 | 28.2 | 28.8 |
| Powerbone Dental Putty | 10.1 | 11.5 | 10.8 |
| Mineralized fraction | 39.5 | 39.7 | 39.6 |
| Connective tissue, Bone marrow | 60.5 | 60.3 | 60.4 |

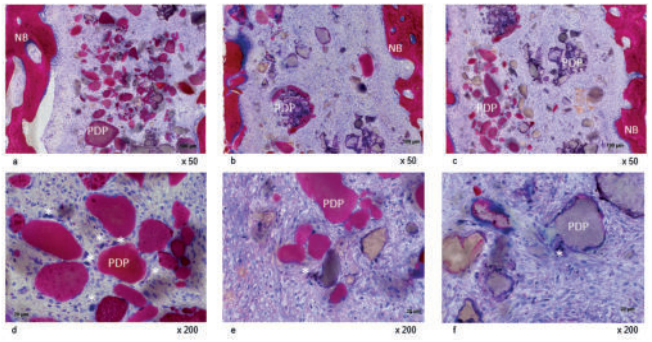



**Fig. 2 Details Section A**
a-f) PDP surrounded by connective tissue.
b) Occasionally, Osteoid (O) detectable.
d-f) Extraordinary amount of multinucleated giant cells (MNGs, Asterisk*) visible.
d-f) PDP appears biphasic (grey and pink)

## Background

**Male, 25 years old.**

Non-smoker.

Non-contributory medical history.

Surgical extraction and immediate grafting of the large 4-wall bone defect with Powerbone Putty.

***Case performed by Dr. Minas Leventis, DDs, MSc, Phd, TR***

## CASE STUDY

1. Initial radiological view.
2. Removal of impacted tooth.
3. Usage of Powerbone Putty for immediate grafting of the large 4-wall bone defect.
4. Histology of extracted bone cyst.

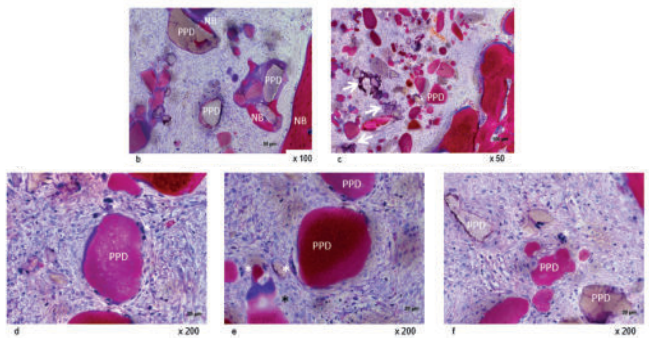



**Fig. 3 Details Section B**
f) PDP surrounded by connective tissue. Plenty of multinucleated giant cells (MNGs.) visible as-well.
b) Many PDP particles demonstrate new bone formation (NB) at the particle surface.
f) PDP appears biphasic (grey and pink). Some particles seem to be in dissolution (arrow ->)

For product dimensions and reference numbers, please refer to the product lists at the end of the catalogue.

# DENTAL BARRIER MEMBRANE

Powerbone Barrier Membrane is:

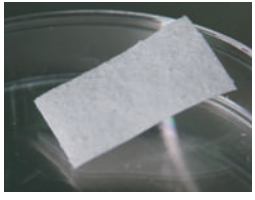
-Designed for the healthy development of bone and periodontal support tissue.

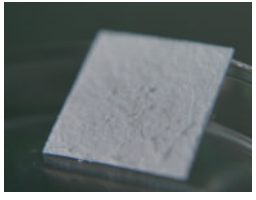
-Composed of a poly (lactic acid) based synthetic polymer that is biocompatible and resorbable with an excellent safety profile in medical applications.

The three-layered structure of Powerbone Barrier Membrane prevents the migration of epithelial and fibroblast cells, selectively supporting the healthy development of bone and periodental tissues. Powerbone Barrier Membrane preserves its structure for 10-12 weeks and is completely absorb.

Powerbone Barrier Membrane does not contain human or animal tissue, removing any risk of viral or disease transmission as well as complying with the wishes of vegans who avoid animal derived products.

Due to its complete resorption, a second surgery for removal is not required.





## Powerbone Barrier Membrane Application

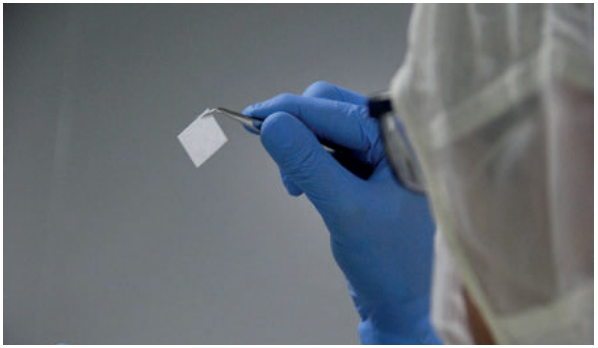
The outer surface of the Powerbone Barrier Membrane, consists of a compressed (non porous) poly (lactic acid) (PLA) layer which is placed next to the soft tissue to exclude epithelial and fibroblast cells from the site.

The inner surface of the Powerbone Barrier Membrane faces the bony surface and consists of porous poly (lactic acid) (PLA) microfibers which induce mesenchymal stem cell retention proliferation and differentiation.

The three-layered barrier membrane is designed for the healthy development of bone and periodontal support tissue.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# CHONDRO MATRIX



Powerbone Chondro Matrix is one-step, hydrophilic, sterile, bioresorbable, CE marked, cell-free implant used to treat articular cartilage defects in the knee, ankle or hip. It uses the biological potential of stem cells to restore damaged cartilage tissue in the joints.

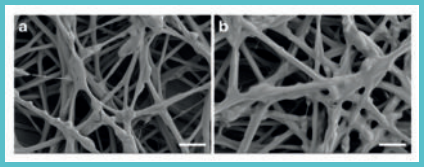
Powerbone Chondro Matrix is composed of biomedical grade Polylactic acid (PLA) to provide structural support for 1-2 months and sodium hyaluronate (hyaluronic acid) to promote chondrogenesis.

Chondro Matrix does not contain human or animal tissue, removing any risk of viral or disease transmission as well as complying with the wishes of vegans who avoid animal derived products.

Due to its complete resorption, a second surgery for removal is not required.

Used for repair and surgical treatment of pain and limited mobility. When placed next to the damaged area, Chondro Matrix absorbs the accumulated blood and provides optimal defect coverage, induces the formation of cartilage repair tissue, reduces pain and symptoms associated with joint defects, and improves patients' quality of life and mobility.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.




Chondro Matrix low (a) and high (b) magnification SEM image.

## Use of Powerbone Chondro Matrix;

1 Microfracturing

- Mesenchymal stem cells are obtained by Marrow stimulating procedures, such as microfracturing or Pridie drilling.

2 Preparation and Implantation of Powerbone Chondro Matrix

- Powerbone Chondro matrix can be easily trimmed to match the defect.
- Powerbone Chondro matrix is implanted into the defective cartilage by mini-open or keyhole procedure.

3 Fixation of Powerbone Chondro Matrix

- Powerbone Chondro matrix can be fixed to the defect by commonly used orthopeadic fixation methods.
- Bioresorbable pins.
- Cartilage suture.
- Fibrin glue.

# BONE CEMENT

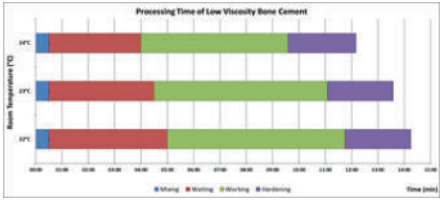
- Polymethyl methacrylate (PMMA) based Bone Cement is a widely used biomaterial due to its ease of use in clinical practice and its long survival rate, especially with prosthetics.

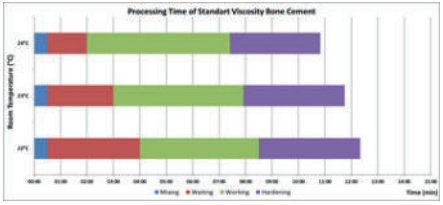
- Common indications for using Bone Cement: total joint replacement, bone and joint reconstructions, fracture fixation and treatment of osteoporotic vertebral fractures.

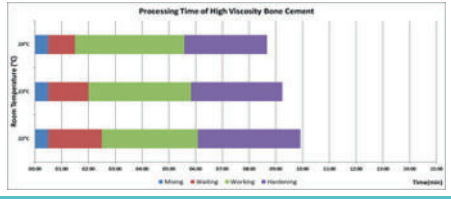
- Bone Cement consists of two phases, solid and liquid phases.

- Powerbone Bone Cement it is presented in three different viscosities as low, standard and high.

- Dough and setting times, maximum temperature and mechanical strength values are matched to Internationally recognised ISO 5833 standards.



For product dimensions and reference numbers,
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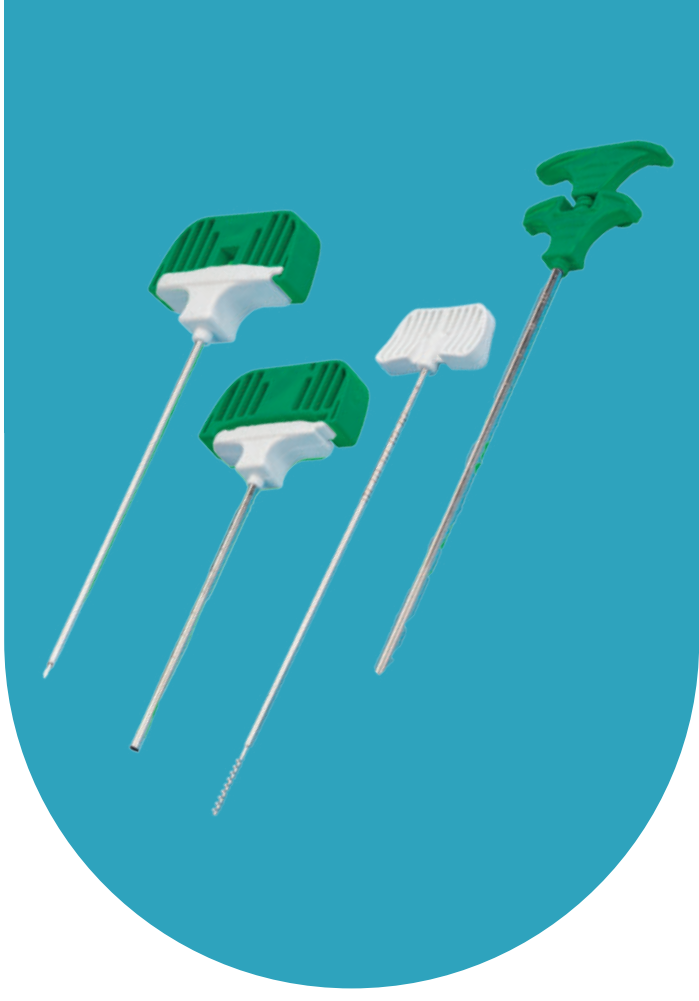
# BONE CEMENT APPLICATOR TOOL KIT

Bone Cement Applicator Tool Kit is a set of sterile manual devices used to create a percutaneous access channel in the vertebral body or other bones (e.g. hand, tibia, calcaneus) prior to Bone Cement injection during kyphoplasty/osteoplasty.

It typically consists of bone access needles, cannulas, orthopedic bone wires (Kirschner wire) expander and bone drill.

In order to effectively deliver bone cement into the vertebral defect without removing the larger sized healthy bone, using a bone cement applicator kit is the most current technology for bone cement release in kyphoplasty/vertebroplasty treatment.

Bonegraft Bone Cement Applicator Kit products are supplied EO sterile and CE marked Class IIa Medical Device according to medical device regulation 93/42/EC.

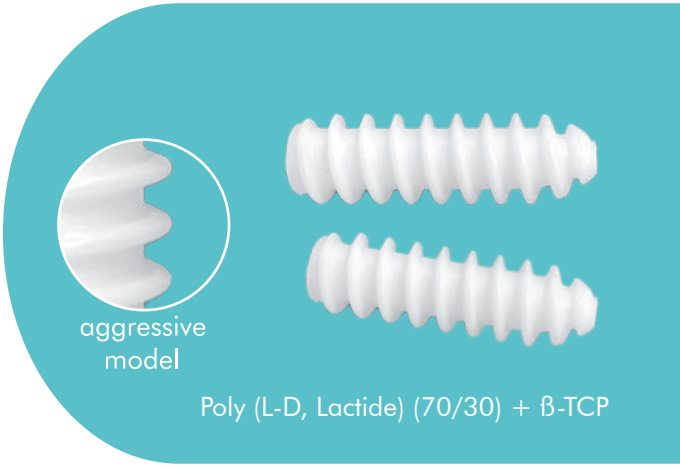


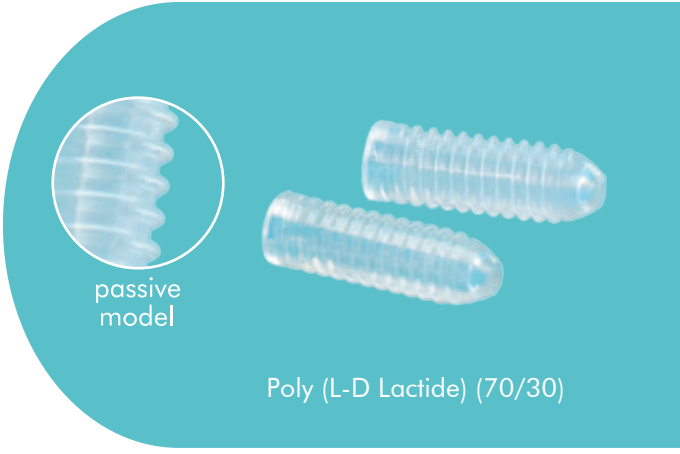
For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# INTERFERENCE SCREW

Interference screw is a fixation device used to rigidly fix bone-patellar tendon-bone graft both in femoral and tibial tunnels and anterior cruciate ligament (ACL) reconstruction.

- Poly (L- D, Lactide) (70/30) polymer or Poly (L -D, L Lactide) (70-30)+ ß-TCP (70/30) composite implants are absorbed in the body and revision surgeries are not needed.
- Used in anterior and posterior cruciate ligament surgery for temporary fixation of tendon bone and soft tissue.
- The interference screw device is supplied sterile and carries Class III Medical Device status according to the CE directive93/42/EC. Biocompatibility, biodegradation, bioburden and sterility tests are applied to each batch to ensure predictable performance.




For product dimensions and reference numbers, please refer to the product lists at the end of the catalogue.

# BIOABSORBABLE FACE LIFTING DEVICE

## TRANSBLEPH

- Fast way to achieve upper periorbital region rejuvenation. This device provides versatility to combine upper eyelid skin removal with brow and upper eyelid repositioning in a single surgical session.

- Using the required upper blepharoplasty incision as an entry port, transbleph assists the surgeon in a holistic approach to the upper periorbital region. The device is easy to implement in the field and no extra hardware is required, meaning fewer tools for installation, handling and maintenance.

Transbleph

## FOREHEAD

- Optimized size for sensitive applications forehead provides a smaller implant scale with the same predictability and safety for finer local precision applications in the forehead area. It also offers a suitable solution for patients with thicker, soft tissue and forehead skin.

- An ultra-thin platform with multiple ultra-thin spines that are unaffected by palpability but provide sensitivity for patients with all the physical characteristics of the larger Forehead scale.

Forehead

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# BONE SCRAPER

## POROUS CUT

The Powerbone Bone Scraper is produced from a non toxic polymer.
A stainless steel cutter is used to scrape and collect autogenous bone fragments from the chin or ramus area.

Powerbone Bone Scraper is designed for use by a suitable qualified clinician.

The Powerbone Bone Scraper is a disposable device used to collect autogenous bone particles for use in guided bone regeneration procedures.

### Bone Scraper Application

The resulting bone fragments provide a high volume due to their curved shape, which significantly reduces the amount of augmentation material required and reduces the invasiveness of the intervention.

Powerbone Scrapers offer the possibility of obtaining both cortical and spongy bone. Manual removal mixes bone fragments directly with patient blood and retains cellular components such as osteocytes for optimal bone regeneration.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# TITANIUM PIN SET (GRADE 5)

## PROPERTIES

Ergonomically designed for easy capture and quick application of titanium pins. The Powerbone Pin Applicator offers single-handed fixation of resorbable and non-resorbable membranes.

- The ergonomic design of the applicator allows easy removal of the pin and easy fixation of the membrane.The notch, which is approximately half the length of the pin, ensures that the pin engages bone easily.

- The pin head macro geometry allows insertion without bone preparation whilst the head design prevents bending during application. These features result in higher torque insertion, better primary stability, and a more predictable success rate.

- Distortion of the pin apex during handling cannot occur.

Length
- 3 mm
- 5 mm

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# ALLOGRAFT

- Allograft is osteoconductive,osteoinductive and demineralised. There is a patient follow-up form in the product box. The product is processed in accordance with GMP standards. The material content is of 100% human origin.
- Allograft is biocompatible with human tissue. Necessary infective tests is done.
- The shelf life of Allograft is 5 years and is processed who has the ISO 13485 Quality Management System Certificate obtained from the accredited institution.
- Allograft is aseptically processed and sterilized by the Gamma irradiation method.
- Processing company is a member of European Association or Tissue Banks.

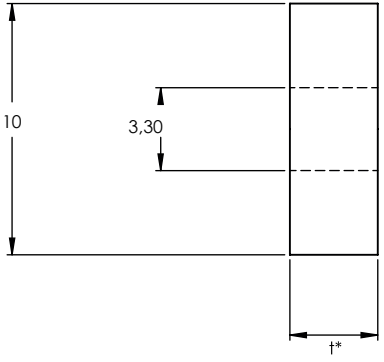

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

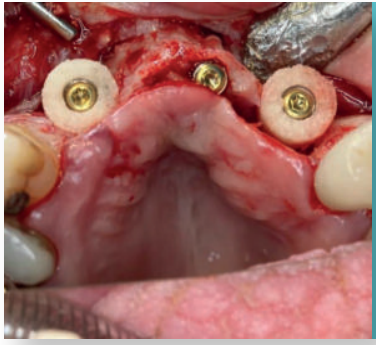
# PERI-IMPLANT RING

- Peri-Implant-Ring material consists of silicate-added ß-TCP embedded inside a PLA based synthetic polymer lattice.
- The product is presented as a flexible ring structure.
- Powerbone Flexible Ring does not contain human and animal origin tissue or blood derivatives.
- Peri-Implant-Ring is sterilized by Gama radiation and is osteoconductive and osteoinductive.
- The shelf life of the product is 3 years.

**Peri–Implant Bone Ring Benefits**

- Predictable bone augmentation.
- No need to harvest bone.
- Associated risk of infection donor site morbitidy and pain can be avoided.
- Improved initial implant stability.
- Successful in ridge defects effective in sinus floor elevations.
- Reduces the overall number of procedures and treatment time is reduced for a gratifying patient acceptance.



*t = 3,50 / 6,50 / 15

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# CRANIAL PLUG

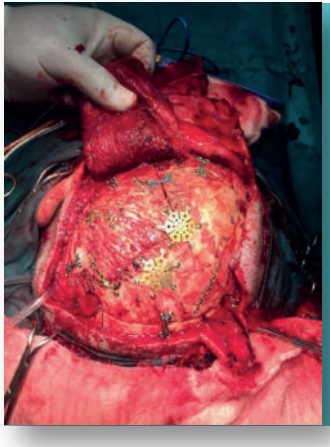
The cranial plug is designed for the reconstruction of cranial burr-holes.

### Osteonductive and Osteoinductive

- The high porosity of Powerbone products support initial clot stabilisation.
- Calcium phosphate provides a conductive scaffold for blood vessels and bone stimulating cells - a structure very similar to the mineral component of natural bone.
- Powerbone materials include silicate which increases circulating protein retention giving bioactive characteristics to the graft.

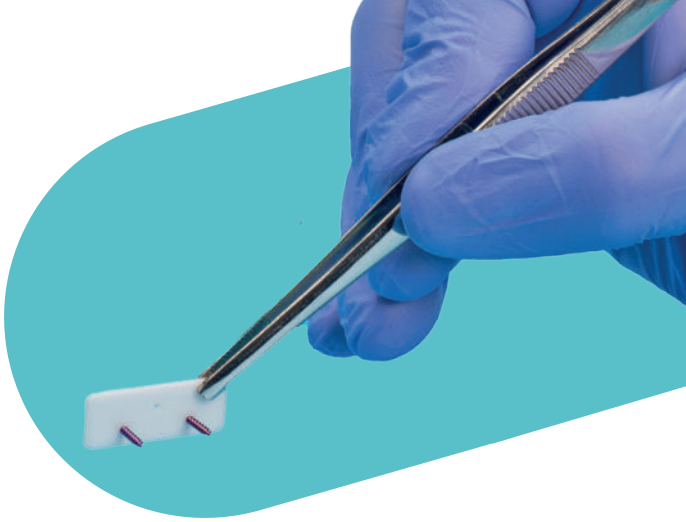
### Biodegradable

- Biodegradable with Full Resorption. With its optimized porous structure and chemical composition, Powerbone grafts are optimised for bone healing. During the healing process, silicate is adsorbed first followed by the ß-TCP scaffold in 4-6 months promoting replacement with native new bone.
- Powerbone grafts are supplied sterile and CE marked as a Class III Medical Device according to 93/42 / EC directive. Biocompatibility (in vitro and in vivo), biodegradation, bioburden and sterility tests are applied to each material.
- CT and X-ray traceability is possible.

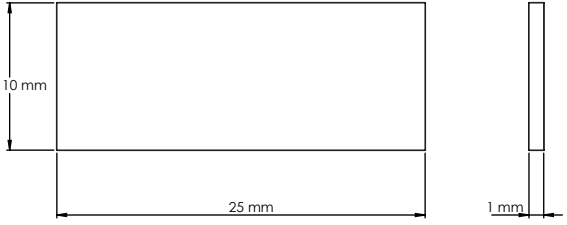


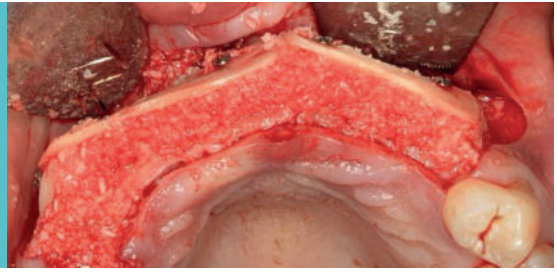
For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# CORTICAL PLATE



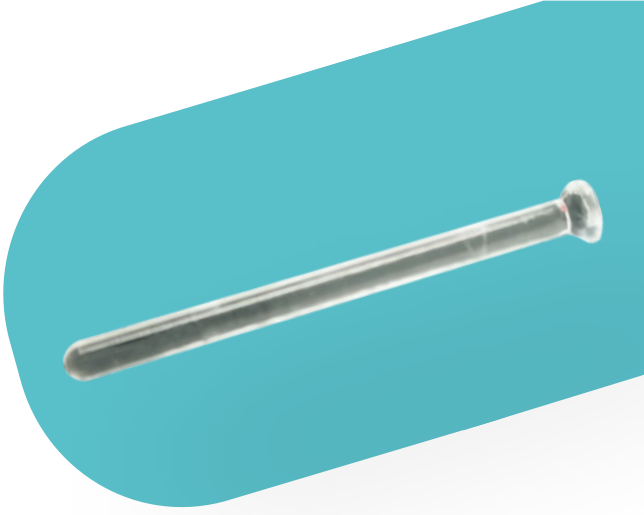
- The cortical plate consists of synthetic composite materials (PLGA + β-TCP).
- Cortical Plate is used for bone fixation in trauma and reconstructive surgical operations.
- Cortical Plate is bioabsorbable.
- Cortical Plate does not contain human and animal origin tissue or blood derivatives.
- Cortical Plate graft is safe for patients undergoing MRI or CT scans and is biocompatible with human tissue. The shelf life of Cortical Plate is 3 years with sterilisation by ethylene oxide. Cortical Plate carries a CE mark and is produced in a a ISO 13485 Quality Certified facility.



For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# BIOABSORBABLE PIN



Bioabsorbable Orthopedic Pin is used in osteotomy or arthrodesis to fix bone fracturer or bone grafts and chondro matrix or when additional mobility is present.

This pin perform affixed to properly align the bone and aid in the healing process.

Pin intend to help stabilize the fused and prevent dislodgement of the bone or one graft. This pin designed for single use only.

## Material and Classification

Bioabsorbale Pin is biomaterial which are made up of Poly (L-lactide-co-D, L-lactide 70/30)

Bioabsorbable Orthopedic Pin is Class III, implantable, MRI compatible medical devie and it is not a medicine.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# TITANIUM BARRIER MEMBRANE (GRADE 5)

The mesh plate is a very thin, soft and elastic, strong membrane with good adhesion.

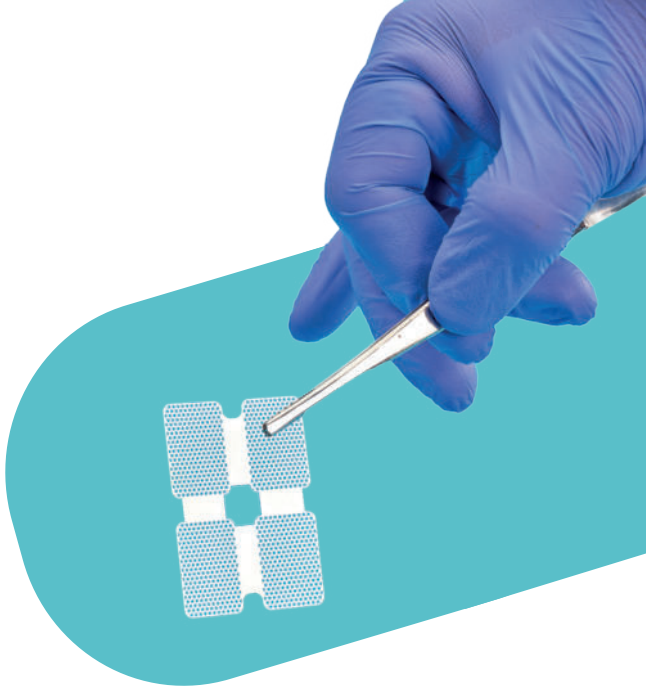
Thanks to its very flexible structure, independent alignment can be achieved even in uneven areas.

- Stability
  Strong thanks to the community structure. It can be easily placed thanks to its strong holding feature.

- Elasticity
  Made of soft, flexible and elastic straps. It is easy to handle and the local control can be easily adapted.

- Biocompatibility
  Does not cause adverse tissue values as it is made from the body

- Nonresorbable



- Thickness 0,1 mm
- 15x20 mm 4 membranes

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

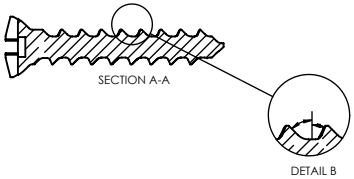
# FIXATION SCREW (GRADE 5 TITANIUM)

Indicated for use in Guided Bone Regeneration, fixation of membranes, flexible strips, cortical grafts and meshes.

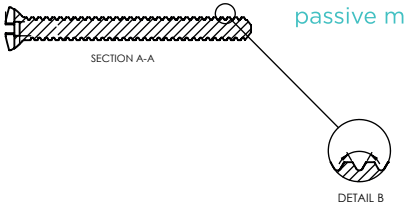
- **High stability**
  The titanium alloy (grade 5) fixation screw provides high stability without weakening of the material thanks to the aggressive structure of the screw.

- **Biocompatible**
  The screw material helps to reduce the risk of infection and helps to prevent allergic reactions.

aggresive model




passive model




For product dimensions and reference numbers, please refer to the product lists at the end of the catalogue.

# POWERBRIGHT (Home Use)


Powerbright (Home Use) is a cosmetic product designed for use in the oral cavity as a tooth whitening agent. The controlled application of the supplied agent lightens the teeth by gentle bleaching of organic pigments within the enamel.

## Contents

- 8 x 1,5 g teeth whitening syringes.
- 2 whitening tray.
- Box for whitening tray.
- **Ingredients:** Hydrogen peroxide, glycerol, sodium hydroxide, potassium nitrate, carbomer, aroma.

Powerbright (Home Use) is for at-home application following the advice of a professional.

For product dimensions and reference numbers,
please refer to the product lists at the end of the catalogue.

# POWERBRIGHT PLUS (Office Use)


Powerbright Plus is an oral care product used under the supervision of a professional for in office tooth whitening. Powerbright Plus lightens teeth by bleaching stains created by organic pigments deep in the dentin tissue.

## Contents

- 4 x 0,4 g A syringes + 4 x 1,1 g B syringes.
- 2 x 2,5 g gingival barrier.
- 4 connectors and 6 syringe tips.
- **Ingredients:** Hydrogen peroxide, glycerol, sodium bicarbonate, potassium nitrate, carbomer.

For product dimensions and reference numbers, please refer to the product lists at the end of the catalogue.

# INDICATION LIST

| PRODUCT NAME | SCORE | POST EXTRACTION SOCKET GRAFTING | POST EXTRACTION SOCKET GRAFTING (NO IMPLANT SCHEDULED) | PERI IMPLANT (SIMULTANEOUS IMPLANT & GRAFT) | GBR FOR DELAYED IMPLANT PLACEMENT | SINUS LIFT (CRESTAL APPROACH) |
|---|---|---|---|---|---|---|
| Powerbone (Flexible) Socket Cone | 5 | ★★★ | X | ★ | ★ | X |
| Powerbone Dental Putty | 25 | ★★★ | X | ★★★ | ★★★ | ★★★ |
| Powerbone Granule | 16 | ★ | X | ★ | ★★ | ★★ |
| Powerbone Biphasic Granule | 16 | X | ★★★ | X | ★★ | ★ |
| Powerbone Putty | 7 | ★ | X | ★ | X | ★★ |
| Powerbone (Flexible) Peri-Implant Ring | 6 | X | X | ★★ | ★ | X |
| Powerbone Cortical Plate | 4 | X | X | X | X | X |
| Powerbone Barrier Membrane | 23 | ★ | ★★ | ★★ | ★★★ | ★★ |
| Powerbone Flexible Graft | 7 | X | X | ★★ | ★ | X |
| Powerbone Stick/Block | 2 | X | X | X | X | X |
| Powerbone Membrane Tack / Pin Kit | 18 | ★ | ★★ | ★ | ★ | ★★ |
| Powerbone Fixation Screw | 9 | X | X | X | X | X |
| Powerbone Fixation Kit | 9 | X | X | X | X | X |

★★★ : perfect ★★ : very suitable ★ : suitable X : not suitable

| SINUS LIFT (LATERAL APPROACH) | RIDGE AUGMENTATION (ONLAY GRAFT FOR WIDTH) | RIDGE AUGMENTATION (KHOURY TECHNIQUE) | RIDGE AUGMENTATION (RING TECHNIQUE) | BONE CYST GRAFTING | BLOCK GRAFT (AUTOGENOUS) | PRODUCT NAME |
|---|---|---|---|---|---|---|
| X | X | X | X | X | X | Powerbone (Flexible) Socket Cone |
| ★★★ | ★ | ★★ | ★★ | ★★★ | ★★ | Powerbone Dental Putty |
| ★★ | X | ★★★ | ★★ | ★★ | ★ | Powerbone Granule |
| ★★ | ★ | ★★ | ★★ | ★★ | ★★ | Powerbone Biphasic Granule |
| ★★ | X | X | X | ★ | X | Powerbone Putty |
| X | X | X | ★★★ | X | ★ | Powerbone (Flexible) Peri-Implant Ring |
| X | ★ | ★★★ | X | X | X | Powerbone Cortical Plate |
| ★★ | ★★ | ★★ | ★★★ | ★★ | ★★★ | Powerbone Barrier Membrane |
| X | ★★★ | X | X | ★ | ★ | Powerbone Flexible Graft |
| X | ★★ | X | X | X | X | Powerbone Stick/Block |
| ★★ | ★★ | X | ★★★ | ★★ | ★ | Powerbone Membrane Tack / Pin Kit |
| X | ★★★ | ★★★ | X | X | X | Powerbone Fixation Screw |
| X | ★★★ | ★★★ | X | X | X | Powerbone Fixation Kit |

# PRODUCT REFERENCE AND SIZES

# PRODUCT REFERENCE AND SIZES

## Powerbone Granule


| Reference Code | Size | Volume |
|---|---|---|
| PG02501005 | 0.25-1 mm | 0,5 cc |
| PG02501010 | 0.25-1 mm | 1 cc |
| PG02501020 | 0.25-1 mm | 2 cc |
| PG05001005 | 0.5-1 mm | 0,5 cc |
| PG05001010 | 0.5-1 mm | 1 cc |
| PG05001020 | 0.5-1 mm | 2 cc |
| PG05001050 | 0.5-1 mm | 5 cc |
| PG05001075 | 0.5-1 mm | 7,5 cc |
| PG05001100 | 0.5-1 mm | 10 cc |
| PG10002005 | 1-2 mm | 0,5 cc |
| PG10002010 | 1-2 mm | 1 cc |
| PG10002020 | 1-2 mm | 2 cc |
| PG10002050 | 1-2 mm | 5 cc |
| PG10002075 | 1-2 mm | 7,5 cc |
| PG10002100 | 1-2 mm | 10 cc |
| PG10002150 | 1-2 mm | 15 cc |
| PG10002200 | 1-2 mm | 20 cc |
| PG10002300 | 1-2 mm | 30 cc |
| PG020405 | 2-4 mm | 5 cc |
| PG02004075 | 2-4 mm | 7,5 cc |
| PG020410 | 2-4 mm | 10 cc |

| Reference Code | Size | Volume |
|---|---|---|
| PG020415 | 2-4 mm | 15 cc |
| PG020420 | 2-4 mm | 20 cc |
| PG020430 | 2-4 mm | 30 cc |
| PG030505 | 3-5 mm | 5 cc |
| PG030510 | 3-5 mm | 10 cc |
| PG030515 | 3-5 mm | 15 cc |
| PG030520 | 3-5 mm | 20 cc |
| PG0305230 | 3-5 mm | 30 cc |
| PG040705 | 4-7 mm | 5 cc |
| PG0407075 | 4-7 mm | 7,5 cc |
| PG040710 | 4-7 mm | 10 cc |
| PG040715 | 4-7 mm | 15 cc |
| PG040720 | 4-7 mm | 20 cc |
| PG040730 | 4-7 mm | 30 cc |
| PG070905 | 7-9 mm | 5 cc |
| PG0709075 | 7-9 mm | 7,5 cc |
| PG070910 | 7-9 mm | 10 cc |
| PG070915 | 7-9 mm | 15 cc |
| PG070920 | 7-9 mm | 20 cc |
| PG070930 | 7-9 mm | 30 cc |

## Powerbone Granule in the Bottle

| Reference Code | Size | Volume |
|---|---|---|
| PCSGB02501005 | 0.25-1 mm | 0,5 cc |
| PCSGB02501010 | 0.25-1 mm | 1 cc |
| PCSGB02501020 | 0.25-1 mm | 2 cc |
| PCSGB05001005 | 0.5-1 mm | 0,5 cc |
| PCSGB05001010 | 0.5-1 mm | 1 cc |
| PCSGB05001020 | 0.5-1 mm | 2 cc |
| PCSGB05001050 | 0.5-1 mm | 5 cc |
| PCSGB05001100 | 0.5-1 mm | 10 cc |

| Reference Code | Size | Volume |
|---|---|---|
| PCSGB10002005 | 1-2 mm | 0,5 cc |
| PCSGB10002010 | 1-2 mm | 1 cc |
| PCSGB10002020 | 1-2 mm | 2 cc |
| PCSGB10002050 | 1-2 mm | 5 cc |
| PCSGB10002100 | 1-2 mm | 10 cc |

# PRODUCT REFERENCE AND SIZES

## Powerbone Silicate Additive Crunch (Regular Form)

| Reference Code | Size | Volume | Reference Code | Size | Volume |
|---|---|---|---|---|---|
| PS44204 | 4x4x20 mm(4 pc) | 8,10 cc | PS101040 **(B)** | 10x10x40 mm | 9,95 cc |
| PS44205 | 4x4x20 mm(5 pcs) | 10,13 cc | PS1010402 **(B)** | 10x10x40 mm | 19,90 cc |
| PS44206 | 4x4x20 mm(6 pcs) | 12,15 cc | PSC420 | 4x20 mm | 2,60 cc |
| PS55204 | 5x5x20 mm(4 pcs) | 16,50 cc | PSC520 | 5x20 mm | 3,24 cc |
| PS55205 | 5x5x20 mm(4 pcs) | 20,63 cc | PSC4204 | 4x20 mm | 10,40 cc |
| PS55206 | 5x5x20 mm(6 pcs) | 24,76 cc | PSC5204 | 5x20 mm | 12,96 cc |
| PS5520 | 5x5x20 mm | 4,13 cc | PW062530 **(W)** | 6x25x30 mm | 5,15 cc |
| PS5634 **(P)** | 5x6x34 mm | 8,42 cc | PW082530 **(W)** | 8x25x30 mm | 7,65 cc |
| PS6717 **(P)** | 6x7x17 mm | 5,89 cc | PW102530 **(W)** | 10x25x30 mm | 10,15 cc |
| PS6734 **(P)** | 6x7x34 mm | 11,78 cc | PW122530 **(W)** | 12x25x30 mm | 15,15 cc |
| PS8820 **(B)** | 8x8x20 mm | 10,56 cc | PW142530 **(W)** | 14x25x30 mm | 20,15 cc |
| PS101020 **(B)** | 10x10x20 mm | 16,50 cc | PW061520 **(B)** | 6x15x20 mm | 2,06 cc |
| PS151520 **(B)** | 15x15x20 mm | 24,50 cc | PW081520 **(B)** | 8x15x20 mm | 2,75 cc |
| PS81216 | 8x12x16 mm | 12,66 cc | PW101520 **(B)** | 10x15x20 mm | 3,44 cc |
| PS44202 | 4x4x20 mm | 4,05 cc | PW121520 **(B)** | 12x15x20 mm | 4,13 cc |
| PS44201 | 4x4x20 mm | 2,03 cc | PW141520 **(B)** | 14x15x20 mm | 4,82 cc |

***(P):**Plug **(B):**Block **(W):**Wedge

# PRODUCT REFERENCE AND SIZES

## Powerbone Putty


| Reference Code | Volume |
|---|---|
| PP005 | 0,5 cc |
| PP006 | 0,6 cc |
| PP01 | 1 cc |
| PP02 | 2 cc |
| PP03 | 3 cc |
| PP05 | 5 cc |
| PP06 | 6 cc |
| PP075 | 7,5 cc |
| PP10 | 10 cc |

## Powerbone Dental Putty


| Reference Code | Volume |
|---|---|
| PDP030 | 0,3 cc |
| PDP050 | 0,5 cc |
| PDP075 | 0,75 cc |
| PDP100 | 1 cc |

## Powerbone Flex


| Reference Code | Size | Volume |
|---|---|---|
| PFS25254 | 25x25x4mm | 2,50 cc |
| PFS25504 | 25x50x4mm | 5,00 cc |
| PFS25505 | 25x50x5mm | 6,25 cc |
| PFS50504 | 50x50x4mm | 10,00 cc |
| PFS201005 | 20x100x5mm | 10,00 cc |
| PFS201006 | 20x100x6mm | 12,00 cc |
| PFS25754 | 25x75x4mm | 7,50 cc |
| PFS25804 | 25x80x4mm | 8,00 cc |
| PFS25805 | 25x80x5mm | 10,00 cc |
| PFS60606 | 60x60x6mm | 21,60 cc |
| PFS35605 | 35x60x5mm | 10,50 cc |
| PFS75405 | 75x40x5mm | 15,00 cc |
| PFS25252 | 25x25x2mm | 2,50 cc |
| PFS25502 | 25x50x2mm | 5,00 cc |
| PFS25802 | 25x80x2mm | 8,00 cc |
| PFS35602 | 35x60x2mm | 10,50 cc |
| PFS60602 | 60x60x2mm | 21,60 cc |

# PRODUCT REFERENCE AND SIZES

## Powerbone Barrier Membrane


| Reference Code | Size |
|---|---|
| PM1520 | 15X20 mm |
| PM1525 | 15x25 mm |
| PM2020 | 20x20 mm |
| PM2025 | 20x25 mm |
| PM2030 | 20x30 mm |
| PM2530 | 25x30 mm |
| PM3040 | 30x40 mm |
| PM1520-5 | 15x20 mm(5pcs) |
| PM1525-5 | 15x25 mm(5pcs) |
| PM2020-5 | 20x20 mm(5pcs) |
| PM2030-5 | 20x30 mm(5pcs) |

## Powerbone Chondro Matrix

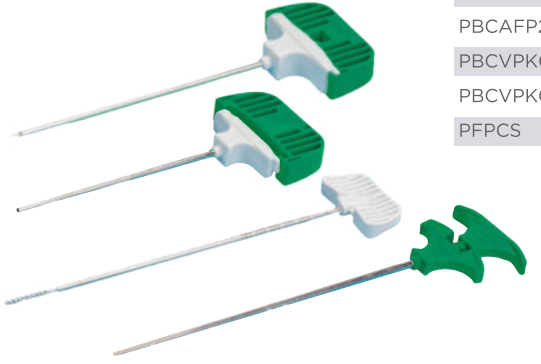

| Reference Code | Size |
|---|---|
| PK202011 | 20-20-1,1 mm |
| PK203011 | 20-30-1,1 mm |
| PK251711 | 25-17-1,1 mm |
| PK252511 | 25-25-1,1 mm |
| PK253511 | 25-35-1,1 mm |
| PK353511 | 35-35-1,1 mm |

## Powerbone Bone Cement


| Reference Code | Size |
|---|---|
| PVC-LV-20 | 20 g (LV Radiopaque Vertebroplasty Bone Cement) |
| PVC-LV-40 | 40 g (LV Radiopaque Vertebroplasty Bone Cement) |
| PKC-LV-20 | 20 g (LV Radiopaque Kyphoplasty Bone Cement) |
| PKC-LV-40 | 40 g (LV Radiopaque Kyphoplasty Bone Cement) |
| POC-SV40 | 40 g ( Radiopaque Bone Cement Normal for ortho) |
| P-PC-HV | 40 g (Radiopaque Bone Cement-HV for ortho) |

# PRODUCT REFERENCE AND SIZES

## Powerbone Bone Cement Applicator Tool Kit



| Reference Code | Size |
|---|---|
| PVBIS | Cannula (1pcs)+ Needle (1pcs) |
| PBCAFP2 | PPKBF-01 Filler (221,5x192x3,5) (1pcs) PPKBF-02 Pusher (259x222x3) (1pcs) |
| PBCVPK0106 | 6 Pieces Tools (Guide Wire+Guide Cannula+Gauge Needle+Bone Drill+Filler+Pusher) |
| PBCVPK0108 | 8 Pieces Tools (Guide Wire+Guide Cannula+Gauge Needle+Bone Drill+2xFiller+2xPusher) |
| PFPCS | Bone Filler (79,2(length) x 1,77 (od)x 1,25(id) Bone Pusher (79,2(length)x1,20 (diameter) |

# PRODUCT REFERENCE AND SIZES

## Powerbone PLDLLA-TCP 30 Interference Screws


| Reference Code | Size |
|---|---|
| SCRW-PPT30IS720 | 7 mm x 20 mm |
| SCRW-PPT30IS725 | 7 mm x 25 mm |
| SCRW-PPT30IS730 | 7 mm x 30 mm |
| SCRW-PPT30IS820 | 8 mm x 20 mm |
| SCRW-PPT30IS825 | 8 mm x 25 mm |
| SCRW-PPT30IS830 | 8 mm x 30 mm |
| SCRW-PPT30IS835 | 8 mm x 35 mm |
| SCRW-PPT30IS920 | 9 mm x 20 mm |
| SCRW-PPT30IS925 | 9 mm x 25 mm |
| SCRW-PPT30IS930 | 9 mm x 30 mm |
| SCRW-PPT30IS935 | 9 mm x 35 mm |
| SCRW-PPT30IS1025 | 10 mm x 25 mm |
| SCRW-PPT30IS1030 | 10 mm x 30 mm |
| SCRW-PPT30IS1025 | 10 mm x 25 mm |
| SCRW-PPT30IS1030 | 10 mm x 30 mm |
| SCRW-PPT30IS1035 | 10 mm x 35 mm |
| SCRW-PPT30IS1135 | 10 mm x 35 mm |

## Powerbone PLA Interference Screws


| Reference Code | Size |
|---|---|
| SCRW-PPIS720 | 7 mm x 20 mm |
| SCRW-PPIS725 | 7 mm x 25 mm |
| SCRW-PPIS730 | 7 mm x 30 mm |
| SCRW-PPIS820 | 8 mm x 20 mm |
| SCRW-PPIS825 | 8 mm x 25 mm |
| SCRW-PPIS830 | 8 mm x 30 mm |
| SCRW-PPIS920 | 9 mm x 20 mm |
| SCRW-PPIS925 | 9 mm x 25 mm |
| SCRW-PPIS930 | 9 mm x 30 mm |
| SCRW-PPIS1020 | 10 mm x 20 mm |
| SCRW-PPIS1025 | 10 mm x 25 mm |
| SCRW-PPIS1030 | 10 mm x 30 mm |

## Powerbone Bioabsorbable Pin


| Reference Code | Size |
|---|---|
| PN-PBP2020 | 2.0mm x 20mm |
| PN-PBP2025 | 2.0mm x 25mm |
| PN-PBP2030 | 2.0mm x 30mm |
| PN-PBP2040 | 2.0mm x 40mm |
| PN-PBP2050 | 2.0mm x 50mm |
| PN-PBP325 | 3.0mm x 25mm |
| PN-PBP340 | 3.0mm x 40mm |

# PRODUCT REFERENCE AND SIZES

## Powerbone TRANSBLEPH Device


| Reference Code | Size |
|---|---|
| C-EST-PTD30 | 3,0 mm (height of pins) |
| C-EST-PTD35 | 3,5 mm (height of pins) |

## Powerbone FOREHEAD Lift Device

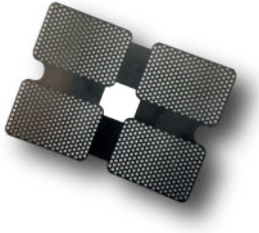

| Reference Code | Size |
|---|---|
| C-EST-PFLD30 | 3,0 mm (height of pins) |
| C-EST-PFLD35 | 3,5 mm (height of pins) |

# PRODUCT REFERENCE AND SIZES

## Bone Scraper

| Reference Code | Size |
|---|---|
| PBS | 1.48cm x 16cm (1pc) |

## Titanium Membrane (Grade5)



| Reference Code | Size |
|---|---|
| Power-396.5000117 | 15x20 mm |

## Titanium Pin Set (Grade5)

| Reference Code | Size |
|---|---|
| Power-398.0002530 | 2.5x3,00mm |
| Power-398.0002550 | 2.5x5,00mm |

# PRODUCT REFERENCE AND SIZES

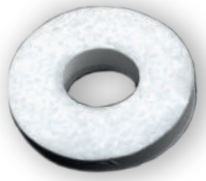
## Allograft

| Reference Code | Size | Volume |
|---|---|---|
| PWB2024FD | 0.25-1 mm | 0,5 cc |
| PWB2025FD | 0.25-1 mm | 1 cc |
| PWB2027FD | 0.25-1 mm | 2 cc |
| PWB2028FD | 0.25-1 mm | 5 cc |

## Cortical Plate

| Reference Code | Size |
|---|---|
| PLT-PB219HPS115 | 25x10x1 mm |

## Peri-Implant Ring



| Reference Code | Size |
|---|---|
| PFSC320 | 10x3,3x3,5 mm |
| PFSC620 | 10x3,3x6,5 mm |
| PFSS71214 | 10x3,3x15 mm |

## Cranial Plug

| Reference Code | Size | Volume |
|---|---|---|
| PS5634 | 5x6x34mm | 8,42 cc |
| PS6717 | 6x7x17mm | 5,89 cc |
| PS6734 | 6x7x34mm | 11,78 cc |

## Biphasic Granule (90% HA 10% β-TCP)


| Reference Code | Size | Volume |
|---|---|---|
| PGB05001005HA | 0.5-1 mm | 0,5 cc |
| PGB05001010HA | 0.5-1 mm | 1 cc |
| PGB05001020HA | 0.5-1 mm | 2 cc |
| PGB05001050HA | 0.5-1 mm | 5 cc |
| PGB05001150HA | 0.5-1 mm | 15 cc |

# PRODUCT REFERENCE AND SIZES

## Fixation Screw

aggresive model

| Reference Code | Size |
|---|---|
| Power-TPSS (Power-397.2000680) | 6,80 mm |
| Power-TPSL (Power-397.2000880) | 8,80 mm |
| Power-TPSM (Power-397.2001080) | 10,80 mm |
| Power-TPSK (Power-397.2001280) | 12,80 mm |

## Bone Screw

passive model

| Reference Code | Size |
|---|---|
| Power-TPSS (Power-397.3000007) | 7 mm |
| Power-TPSL (Power-397.3000010) | 10 mm |
| Power-TPSM (Power-397.3001013) | 13 mm |

# PRODUCT REFERENCE AND SIZES

## Powerbone Fixation Set Box


Reference Code

Power-396.5000138

### Powerbone Fixation Screws

| Reference Code | Size |
|---|---|
| Power-TPSS (Power-397.2000680) | 6,80 mm |
| Power-TPSL (Power-397.2000880) | 8,80 mm |
| Power-TPSM (Power-397.2001080) | 10,80 mm |
| Power-TPSK (Power-397.2001280) | 12,80 mm |

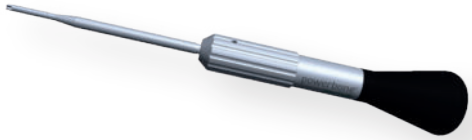
### Powerbone Bone Screws

| Reference Code | Size |
|---|---|
| Power-TPSS (Power-397.3000007) | 7 mm |
| Power-TPSL (Power-397.3000010) | 10 mm |
| Power-TPSM (Power-397.3001013) | 13 mm |

### Powerbone Dental Titanium Pin

| Reference Code | Size |
|---|---|
| Power-398.0002530 | 2.5x3,00mm |
| Power-398.0002550 | 2.5x5,00mm |

### Powerbone Fixation and Bone Screw Driver



Reference Code

Power-397.2000000INS

### Powerbone Drill 1,1 mm (for Fixation and Bone Screw)

Reference Code

Power-396.5000137

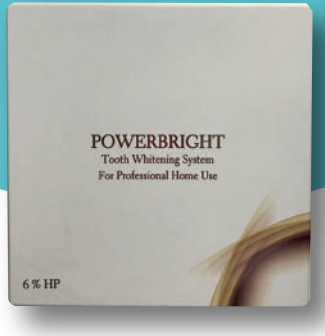
### Powerbone Fixation and Bone Screw Driver for Motor

Reference Code

Power-396.5000136

# PRODUCT REFERENCE AND SIZES

## (Home Use) POWERBRIGHT %6 HP




Reference Code

PWA06-01

## (Office Use) POWERBRIGHT PLUS %35 HP


Reference Code

PPWA35-01

BONEGRAFT®
BIOMATERIALS

Biyolojik Malzemeler San. ve Tic. A.Ş.
Ege Üniversitesi Sit. İdeege Teknoloji Geliştirme Bölgesi A.Ş.

Head Office : Erzene Mahallesi Ankara Cad. No:172/67
Ege Üniversitesi Sit İdeege Teknoloji Geliştirme Bölgesi
BORNOVA / İZMİR / TÜRKİYE P.K.: 35100

Branch Office : 7410 Sokak No:8 Kemalpaşa Mahallesi
PINARBAŞI-BORNOVA / İZMİR / TÜRKİYE

Factory : Keçiliköy OSB Mahallesi İsmail Kahraman Cad.
No:1/1/A YUNUSEMRE / MANİSA / TÜRKİYE - P.C.45030

Phone: +90 232 373 33 38 Fax: +90 232 373 33 39

**www.bonegraft.com.tr info@bonegraft.com.tr**