

# ESTHETIC RESTORATIONS

Straumann® Biomaterials > Bone Grafts

Straumann® XenoGraft and XenoFlex  
Mastering everyday cases.



# Straumann® XenoGraft

# Straumann® XenoFlex

Versatile solutions for successful bone and tissue regeneration.

Following the well-established treatment protocol using deproteinized bovine bone granules for the efficient treatment of bone defects.

Straumann® XenoGraft and XenoFlex:

- Are easy to handle
- Have long-term volume stability
- Already successfully applied in over 500,000 cases worldwide

Straumann® XenoGraft delivered in a practical bowl container, consists of 100% bovine bone granules.



Straumann® XenoFlex available as a block or in a practical syringe, consists of 90% bovine bone granules and 10% porcine collagen.

## PROPERTIES

Attribute	Straumann® XenoGraft	Straumann® XenoFlex
<b>Origin</b>	Bovine cancellous bone particles	Bovine cancellous bone particles Porcine collagen type I
<b>Composition</b>	Calcium phosphate (100% pure hydroxyapatite, mineral phase)	90% calcium phosphate (100% pure hydroxyapatite, mineral phase) 10% type I collagen
<b>Degradation kinetics</b>	Long-term integration of bovine particles, very slow, limited degradation	Fast binding at defect site, quick decomposition of collagen phase, long-term integration of bovine particles, limited degradation
<b>Healing/integration time</b>	6–9 months (depending on defect)	6–9 months (depending on defect)
<b>Storage temperature</b>	2–30 °C	2–30 °C
<b>Shelf life</b>	3 years (from date of production)	3 years (from date of production)

# Straumann® XenoGraft – Mastering everyday cases.

Straumann® XenoGraft, for bone defect treatment, is methodically processed from bovine bone, extensively tested to eliminate antigenicity and provides a favorable environment for new bone growth. Its limited resorption rate delivers extended stability, a critical advantage in cases that require a strong framework for long-term tissue support or esthetic needs.

## WHY STRAUMANN® XENOGRAFT?

- Volume preservation by providing a long lasting framework for **excellent space maintenance** (Fig. 1)
- Fast and straightforward application for **optimal handling**
- Innovative packaging for **easy product handling** and hydration
- Limited resorption rate provides **extended stability**
- Osteoconduction followed by organized integration and remodeling process (Fig. 2)
- Extended portfolio range

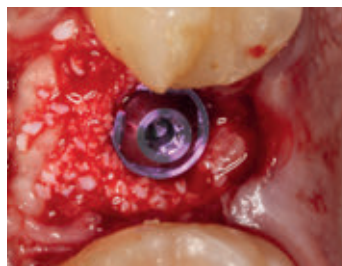


Fig. 1: Long-lasting framework for excellent space maintenance.

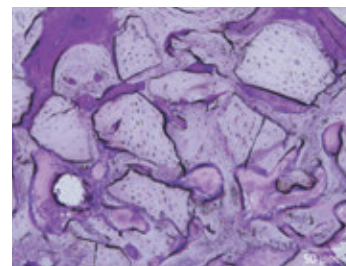
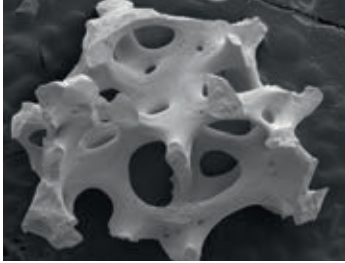


Fig. 2: Four-week timepoint, rabbit model, new bone formation around Straumann® XenoGraft.

## STRAUMANN® XENOGRAFT SUCCESS FACTORS

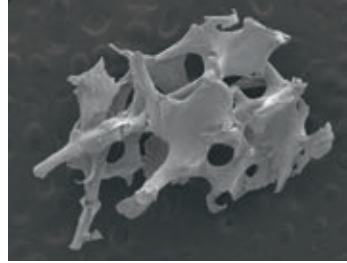
- **Optimal balance** of calcium and phosphate, comparable to human bone

**Straumann® XenoGraft**



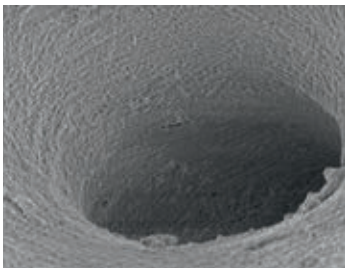
Calcium/Phosphate ratio 1.68

**Human bone**

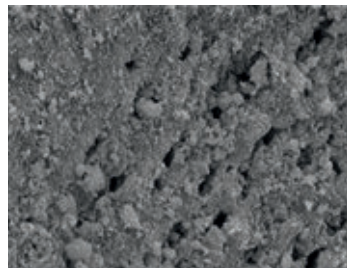


Calcium/Phosphate ratio 1.68

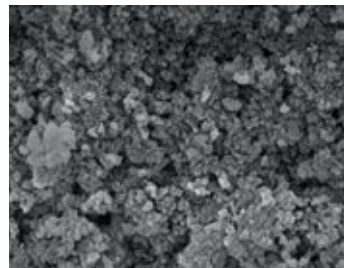
- **Moderate temperature treatment**, careful, but thorough, cleaning with solvents during purification process: resulting in low crystallinity and interconnected porous structure of each granule for enhanced integration of new bone



1,000× magnification

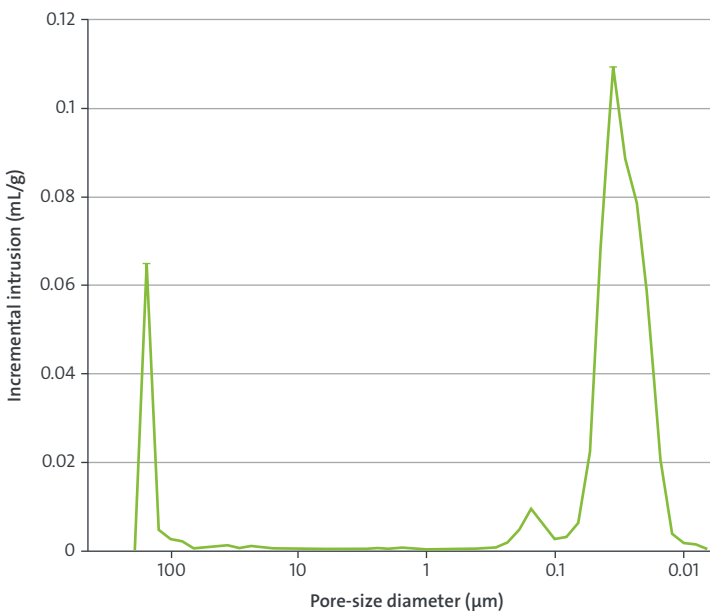


5,000× magnification



20,000× magnification

- **Hydrophilicity** enables early biological interaction



**Macro- and microporous structure:** porosity is an important feature of any bone grafting material. Straumann® XenoGraft features two different pore diameters:

- Macropores that allow intrusion of osteoclasts, osteoblasts and microcapillaries
- Micropores that allow intrusion of tissue fluids and fast liquid uptake via capillary effect

The micro- and macropore structure of Straumann® XenoGraft are important factors facilitating fast capillary liquid uptake.<sup>1</sup>

# Straumann® XenoFlex – Mastering flexibility.



Straumann® XenoFlex is composed of 90% XenoGraft granules embedded in 10% purified porcine-derived collagen (type I). Straumann® XenoFlex is an optimal solution for graft applications required in extraction sockets and is available with a syringe applicator or as a block.



## WHY STRAUMANN® XENOFLEX?

- Efficient, easy to handle, volume stable:
  - Straumann® XenoFlex can be easily cut to match the size and shape of the individual defect after hydration
  - Straumann® XenoFlex can be placed into the defect in one piece using tweezers, shortening surgery time
  - Outstanding product stability after thorough hydration, supporting product application
- Extended block and cylinder shape portfolio
- See explanatory handling video by scanning QR code

## STRAUMANN® XENOFLEX SUCCESS FACTORS

- Volume stability and healing environment:
  - The collagen portion of Straumann® XenoFlex assists the initial healing environment before dissolving (within weeks)<sup>2</sup>
  - Collagen fibers have intrinsic hemostatic properties facilitating the adhesion of proteins and signaling molecules<sup>3</sup>
  - Long-term osseous integration of embedded granules providing excellent volume stability

“Straumann® XenoFlex has immediately become a go-to product in my practice. The ability to precisely place and shape the xenograft into various defects delivers a simple surgical solution. In addition, the graft stability in a surgical field provides a level of hemostatic predictability not available with particulate grafts.”



Dr. Tyler Borg  
Broomfield, Colorado,  
USA

# Straumann® XenoGraft and XenoFlex are designed for the following indications:

- Extraction sockets
- Sinus-floor elevation
- Horizontal augmentation
- Ridge preservation
- Peri-implant defects
- Intraosseous defects

Straumann® XenoGraft and XenoFlex for successful bone regeneration in dentistry. Our biomaterials are designed to eliminate antigenicity and provide a favorable environment for new bone growth. Slow resorption increases stability, improving the likelihood of long-term implant survival rates. Available in a selection of practical containers for enhanced handling.

The everyday choice for successful bone and tissue regeneration, Straumann® XenoGraft and XenoFlex.

Mastering everyday cases.



Discover more about the Straumann® Biomaterials portfolio.  
Contact your local Straumann® representative or visit:  
[www.straumann.com](http://www.straumann.com)

# Straumann® Biomaterials. Master any Challenge.

We love our everyday shoes, our favorite, worn-in sneakers. But would you use them to climb a wall? To go skiing? Or hiking? All-purpose shoes may suit our everyday activities, but challenges need a specific solution to ensure maximum performance and reliability. This is also true for dentistry, which is why we provide what we believe to be the industry's most comprehensive biomaterials portfolio. A selection of solutions to overcome any obstacle you might face. Products that allow you to go horizontal and vertical. Products with the right "grip" and fit. Products that enable you to achieve beautiful esthetics and – of course – achieve a desirable clinical outcome. This is how you master any challenge.



# Straumann® XenoGraft

# Straumann® XenoFlex

Straumann® XenoGraft is available in the following options

Order code	Volume (g/cc)	Granules Size (mm)	Product
S1-0210-025	0.25 g/0.55 cc	0.2 – 1.0 mm	Straumann® XenoGraft granules in bowl-type glass vial
S1-0210-050	0.5 g/1.3 cc		
S1-0210-100	1.0 g/2.4 cc		
S1-0210-200	2.0 g/4.5 cc		
S1-1020-025	0.25 g/0.68 cc	1.0 – 2.0 mm	Straumann® XenoGraft granules in bowl-type glass vial
S1-1020-050	0.5 g/1.55 cc		
S1-1020-100	1.0 g/2.9 cc		
S1-1020-200	2.0 g/5.0 cc		

Straumann® XenoFlex is available in the following options

Order code	Dimension L×W×H (mm/mg)	Product
NI-0110-005	6×6×3/50 mg	Straumann® XenoFlex block
NI-0110-010	6×6×6/100 mg	
NI-0110-025	7×8×9/250 mg	
NI-0110-050	9×10×11/500 mg	
Order code	Dimension Ø×L (mm/mg)	Product
NI-0110-025S	4.6×40/250 mg	Straumann® XenoFlex syringe Cylinder in syringe
NI-0110-050S	5.6×45/500 mg	



## REFERENCES

1 NIBEC Research Institute, data on file. 2 Patino et al. Collagen as an implantable material in medicine and dentistry; J Oral Implantol. 2002;28(5):220-5. 3 Farndale et al. The role of collagen in thrombosis and hemostasis. J Thromb Haemost 2004; 2: 561–73.

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