



Rua José Gomes Ferreira nº1, Arm. D  
2660-360 São Julião do Tojal  
Loures - Portugal

+351 210 966 988  
www.ceramed.pt  
ceramed@ceramed.pt



k-IBS®

# INJECTABLE BONE SUBSTITUTE with CHITOSAN

## RAW MATERIALS

- Chitosan
- Hydroxyapatite
- Biphasic Mixtures (HA+ $\beta$ TCP)

## MEDICAL DEVICES

- 3D Bone Substitutes
- Injectable Bone Substitutes
- Bone Cement
- Wound Dressing
- Membranes

## COATINGS

- Hydroxyapatite (HA)
- Titanium (Ti)
- Double Layer (Ti+HA)
- Triple Layer (Ti+Ti+HA)
- PVD
- Anodizing

## Calcium Phosphate spherical-like granules in a Chitosan based Gel Matrix

**k-IBS®** is a injectable gel presented in pre-filled ready to use syringe



### Specifications

Ready to use product  
Spherical-like granules sizes: 125 - 355µm  
Macro and micro porosity  
Easy application

### Composition

Ceramic phase  
75% Hydroxyapatite  $[\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2]$  and  
25% beta-TriCalcium Phosphate  $[\text{Ca}_3(\text{PO})_4]$   
Polymeric Matrix  
Chitosan  $(\text{C}_6\text{H}_{11}\text{O}_4\text{N})_n$   
Polyethylene Glycol  $(\text{C}_2\text{H}_4\text{O})_n \cdot \text{H}_2\text{O}$



## Calcium Phosphate sperical-like granules

Use of granules enhances filling of bone cavities and cell adhesion and proliferation



## k-IBS® has a better **IMPLANT STABILITY**

due to the polymeric chitosan matrix which also prevents ceramic particles migration

**k-IBS® is EASY to APPLY**  
due to its pasty consistency, reducing surgery time



**k-IBS® is a**  
**BIOCOMPATIBLE**  
and  
**BIODEGRADABLE**  
bone substitute

### CASE #1

61 years old female with periodontal disease affection tooth nr.27 and loss of implant, leading to tooth extraction

#### Surgical procedure

Extraction of tooth nr. 27.  
Implantation of 3 dental implants with sinus-lift technique.  
k-IBS® bone substitute implanted in contact with cancellous tissue for total defect filling.



Pre-operative CAT X-Ray



Post-operative CAT X-Ray

#### Follow up

- After 2 months no complications were reported;
- After 6 months the total substitution of the implant by new bone was reported. No complications were reported;
- During revision, after 1 year, no changes in the peri-implanted tissues were reported. The load was perfect and complete regeneration occurred. The patient is very satisfied with final results.

### CASE #2

20 years old female with aggressive periodontitis and bruxism.

#### Surgical procedure

A mucoperiosteal flap was made, and the walls were smoothed.  
k-IBS® was placed in the most problematic areas and sutured with absorbable suture. Bone substitute implanted in contact with cancellous bone.



Pre-operative CAT X-Ray

#### Follow up

- After 2 months there was low implant resorption and the patient presented an excellent cicatrization, without any complications
- After 6 months new bone formation was reported
- After 1 year the regeneration process was achieved due to the use of k-IBS®, allowing a dental support, functionality and aesthetic. The patient reported that does not feel pain in the facial muscles in the morning and does not have dental pain.