βBeta-bsm® Injectable Bone Substitute Material

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MIS Centric
Nanocrystalline* Calcium Phosphate

βBeta-bsm Injectable Bone Substitute Material is a calcium phosphate that addresses the need for osteoconductive materials with injectable characteristics for minimally invasive procedures.

Injectable

βBeta–bsm can be delivered through as small as a 16g needle and set hard at body temperature with an average compressive strength of 30 MPa[1], 3 times the strength of cancellous bone.[3]

Simple Mixing

βBeta-bsm is mixed in a closed syringe to syringe mixing system which provides a simple technique that minimizes the chance of a spill.

Cell Mediated Remodeling

X-ray diffraction shows ETEX nanocrystalline* calcium phosphate is comparable to the mineral composition of human bone, providing a scaffold for new bone growth while undergoing cell mediated remodeling as the bone heals.

Natural Bone
(X-ray diffraction)

ETEX® BSM
(X-ray diffraction)

ETEX nanocrystalline* calcium phosphate is comparable to the mineral composition of human bone, providing a scaffold for new bone growth.

*The grain size of the hydroxyapatite (HA) crystals that form as part of the amorphous and crystalline mixture of calcium phosphate sets are on the nanometer scale. The size of crystalline structures were measured by x-ray diffraction to be less than 100 nanometers.

ᵝBeta-bsm Injectable Bone Substitute Material

ᵝBeta-bsm Ordering Information

2.5 cc	Kit	76-6025
5 cc	Kit	76-6016

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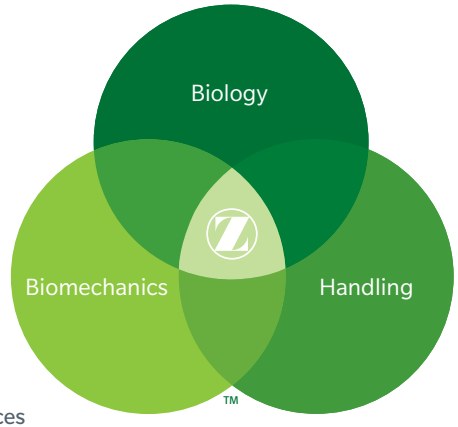
Be sure to mix thoroughly. For complete mixing instructions, refer to the instructions for use.

PERFORMANCE CRITERIA		
CRITERIA	**FEATURE**	**BENEFIT**
Mixing	Syringe to syringe	Closed mixing system
Formulation	Proprietary nanocrystalline* calcium phosphate	Comparable to chemical formulation of human bone mineral.[1,2]
Handling	Injectable through 20 g needle for orthopedic applications / 16 g needle included[1]	Minimally-invasive delivery
Cohesive	Sets hard in a wet environment, may be irrigated after setting	Complete defect fill / resists wash out
Structure	Sets hard and maintains shape	Osteoconductive scaffold
Working Time	2 minutes	Intraoperative flexibility
Setting Time	Sets in 3-5 minutes at 37˚C	No thermal necrosis
Crystallization process	Isothermic	Sets hard at body temperature
Compressive Strength	Average of 30 MPa [1]	Strength three times cancellous bone [3]
Drillability	Drillable during and after setting [4]	Procedural flexibility
Remodeling	Cell mediated remodeling [2]	Remodels as the bone heals
Sizes	2.5 cc and 5 cc	Accommodates a variety of applications



References

1. Internal Testing Report TRE 071006
2. Tofighi, et al. New Generation of Synthetic, Bioresorbable and Injectable Calcium Phosphate Bone Substitute Materials: Alpha-bsm®, ᵝBeta-bsm™ and ᵞGamma-bsm™ Journal of Biomimetics, Biomaterials and Tissue Engineering Vol.2 (2009) pp 39-55.
3. Van Hvid, Peter Christensen, JøRgen Søndergaard, Peter Brøgger Christensen & Christian Grønhøj Larsen (1983) Compressive Strength of Tibial Cancellous Bone: Instron® and Osteopenetrometer Measurements in an Autopsy Material, Acta Orthopaedica Scandinavica, 54:6, 819-825, DOI: 10.3109/17453678308992915
4. Etex TRE 202_144

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