

# ZENBONE

Composed of  $\beta$ -TCP,  $\text{CaCO}_3$ , silicon, and PLGA, the special formula contains 0.5% to 1% silicon by weight, which is comparable to the level found in natural bone.

## INDICATIONS FOR USE

Zenbone is intended for use in bony voids or gaps that are not intrinsic to the stability of the bony structure. These defects may be surgically created osseous defects or osseous defects resulting from traumatic injury to the bone.

Zenbone is indicated to be gently packed into bony voids or gaps of the skeletal system (extremities, pelvis, and posterolateral spine). In the extremities and pelvis, Zenbone may be used without hydration or hydrated with blood. In the posterolateral spine, Zenbone is to be used hydrated with bone marrow aspirate and mixed with autograft bone.

The device provides a bone void filler that is resorbed and replaced with host bone during the healing process.



Distributed by

Zentek Surgical, LLC  
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Manufactured by

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L126-01



**ZENTEK**  
surgical

# ZENBONE

A Moldable Electrospun Biosynthetic  
Scaffold for Versatile Bone Fusion  
and Defect Repair

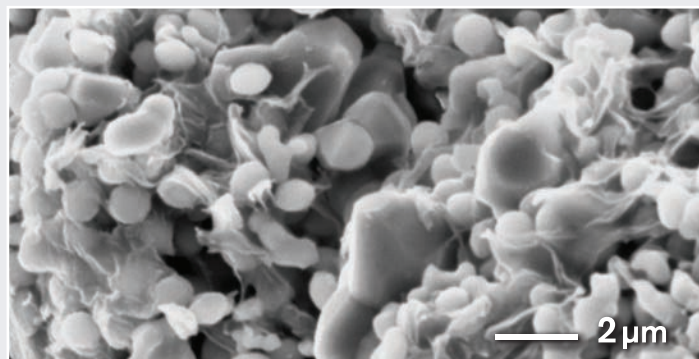
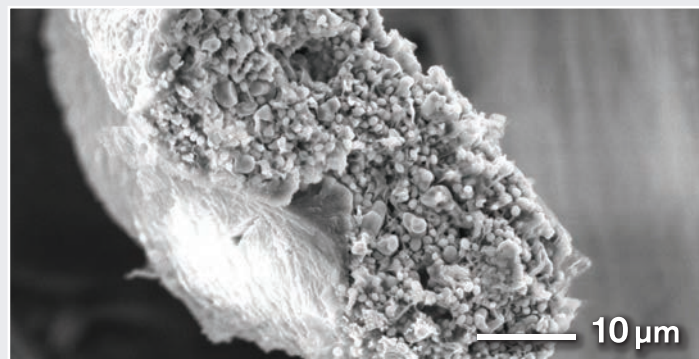
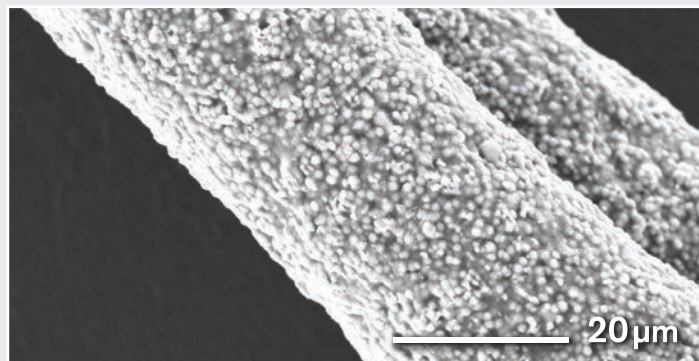
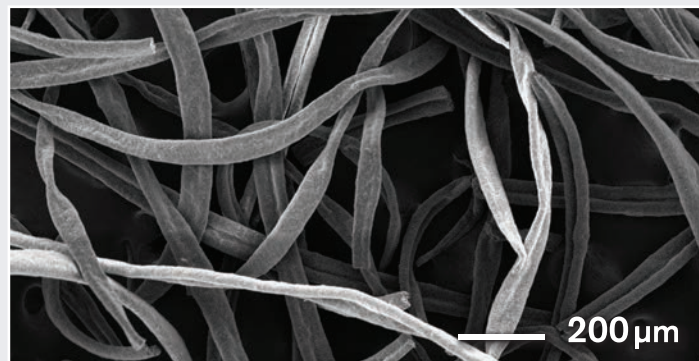


# ZENBONE

- ✔ Proven to support cell activation, retention, and proliferation<sup>1</sup>
- ✔ Superior handling characteristics<sup>2</sup>
- ✔ Optimal fit and fill:
  - Zenbone offers up to 54% compression recovery<sup>2</sup>
  - Maintains integrity during and after placement

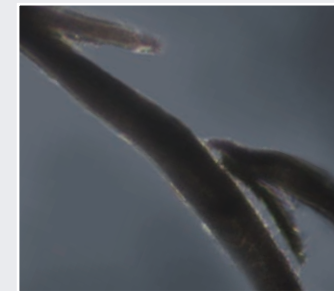
Zenbone is the only biosynthetic bone scaffold with electrospun microfiber construction. Composed of  $\beta$ -TCP,  $\text{CaCO}_3$ , silicon, and PLGA, the special formula contains 0.5% to 1% silicon by weight, which is comparable to the level found in natural bone.

The interconnected network of microporous fibers in Zenbone is created by a unique and proprietary electrospinning process that produces an absorbent, biodegradable scaffold. Zenbone is known for its moldable properties, as well as for its ability to retain bioactive fluids, which enhances its osteoinductive potential.

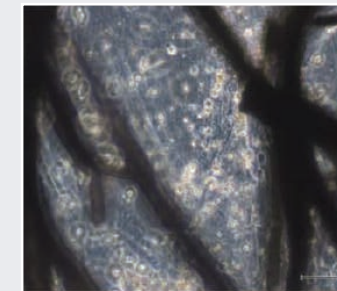


## DEMONSTRATED EFFECTIVENESS

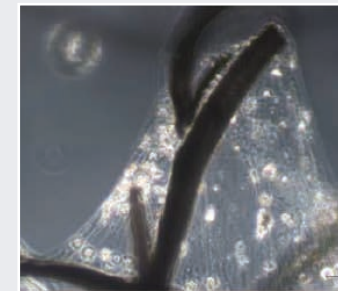
In a recent test by Dr. George Muschler, MD at the Cleveland Clinic Lerner Research Institute, osteoprogenitor cells were separated from bone marrow and were applied to Zenbone fibers. The resulting cultures were carefully scrutinized at various stages. Staining and microscopic analysis showed robust cell growth migration and proliferation of cells on the fiber scaffold, indicating that cell colonies were growing and expanding on the microfibers—an early sign of bone formation. This test demonstrated that Zenbone functions as an effective bone graft that supports cell vitality and adherence.



*De novo Zenbone fibers prior to infiltration & attachment*



*ECM formation – 3 days*



*Cell colonization & attachment – 11 days*

## PRODUCTS

| Volume, dry (approximately) | Zenbone grams | Fluid volume for hydration | Volume, after hydration (approximately) |
|-----------------------------|---------------|----------------------------|---|
| 10 cc                       | 0.4 g         | 3.2 cc                     | 4 cc                                    |
| 25 cc                       | 1.0 g         | 8 cc                       | 10 cc                                   |
| 50 cc                       | 2.0 g         | 16 cc                      | 20 cc                                   |



**\*The volume of Zenbone decreases if the product is hydrated (optional). Change in volume depends on specimen and hydration material.**

<sup>1</sup>Based on results of 2017 tests carried out at the Cleveland Clinic Lerner Research Institute | <sup>2</sup>Based on user survey responses | <sup>3</sup>Test results available upon request