



io
bone

CANCELLOUS
SUBSTITUTE
GRANULES





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WHY IS IO BONE SPECIAL?

io bone made from 100% BSE-free approved Australian Bovine origin, is a biocompatible, highly porous, OCP- based inorganic mineral matrix designed for dental regenerative applications. The performance of **io bone** clearly outstands other world-leading products in the market.

GENUINE MULTIPOROUS STRUCTURE

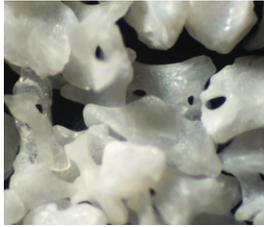
io bone shows an excellent multiporous structure.

The porosity of bone graft substitute is one of the most crucial factors for angiogenic progress.

io bone is made from 100% pure cancellous bone without the use of cortical portions. Specialized & advanced pulverizing technique enables mass production of highly porous and uniformed graft particles.



io bone 1.2-1.7x20
Consistent Microporous Nature



A Co. x20
Damaged Classified
Surface



B Co. x20
Large Particle
All Cortical Particles



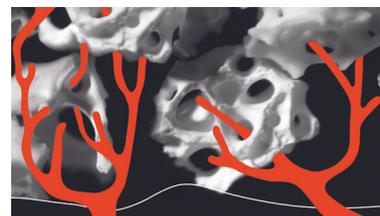
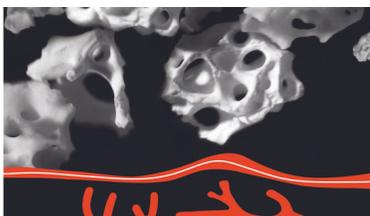
C Co. x20
Well Porous but
Cortical Particle Found



D Co. x20
Porous Nature
Damaged

Post Graft Surgery Blood Vessel Progress of io bone

When the graft surgery is implemented to the defect site, the new bone cell is conducted & delivered from the patient's existing bone to the graft site throughout the blood supply. The Blood vessels deliver blood, bone cells into the pores of the graft materials. If the graft particle shape has poor porosity, it prohibits the blood vessel growth inside the graft and consequently causes poor angiogenic progress. That's why the porosity of the graft material is essential.



Outstanding Volume Stability

The unique 100% multiporous cancellous nature of **iO bone** offers higher quantitative mass volume per gram unit, compared to other poor porous products. It results in less material cost which means that **iO bone** is cost-efficient & effective.

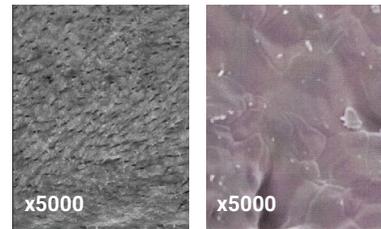


ROUGH HYDROPHILIC SURFACE

Our 15 years of R&D and sophisticated low-temperature manufacturing expertise enable **iO bone** to exhibit an optimal, natural surface topography, the same as human bone.

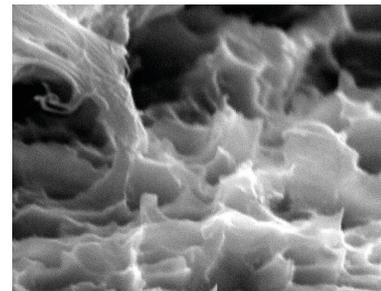
Why is the rough surface important?

The new bone is formed from the host bone directly onto the rough surface of the graft mass through the blood clots attachment process (fibrin network formation). How? The roughness of the graft enables to capture of the individual anchor of the blood clots onto the graft, and it is another essential step for new bone formation. Thanks to our advanced low-temp. manufacturing expertise, R&D, and collaborated research with scientific institutions, we are able to express an optimal, natural surface topography, the same as human bone. The vitrification phenomenon caused by a high temperature (1200°C and over) and cracks that happen in the cooling processes have been completely controlled with **iO bone**.



iO bone
Osteoblast preferred surface

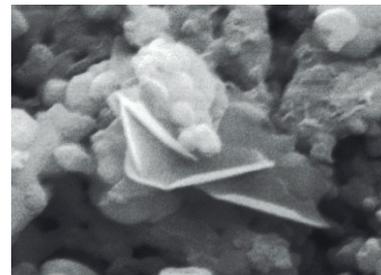
Competitor Bone
Ceramic all classified surface



OSTEOPROMOTING FACTOR

Pre HA structure, Octacalcium Phosphate (OCP) crystal that exhibits excellent bone regenerative properties is found on the surface of **iO bone**.

The osteopromoting factor of the bone graft materials is one of the foremost points that you must consider when choosing the right product. It is an advanced technology that only a few companies in the world are able to produce. **iO bone** exhibits unique fish-fin-like structures on its surface and it is the secret of the osteopromoting factor of **iO bone**.





IESS Group is the new international company established in 2021 from the merging of **Geass** and **iRES Group** and which expanded further in 2022 with the entry of **Multysystem**.

In addition to one of **the sector's most extensive product portfolios**, IESS Group also provides a **wide range of services** designed to support the dentist in all professional aspects.

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