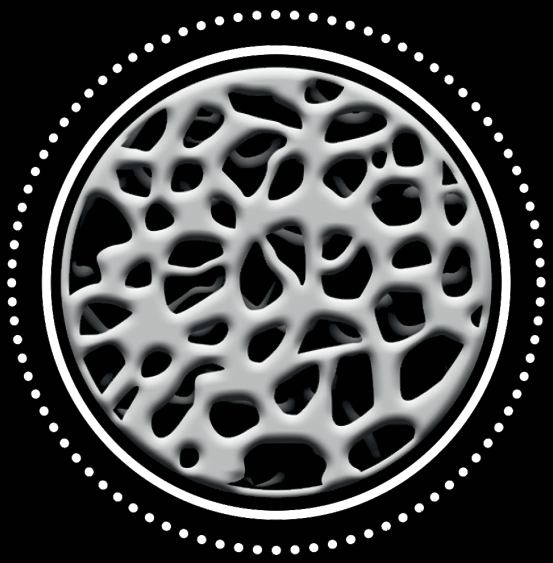
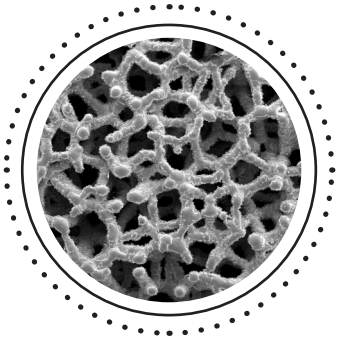
Ti LIFE TECHNOLOGY

BY SPINEART



THE ULTIMATE BRIDGE TO FUSION

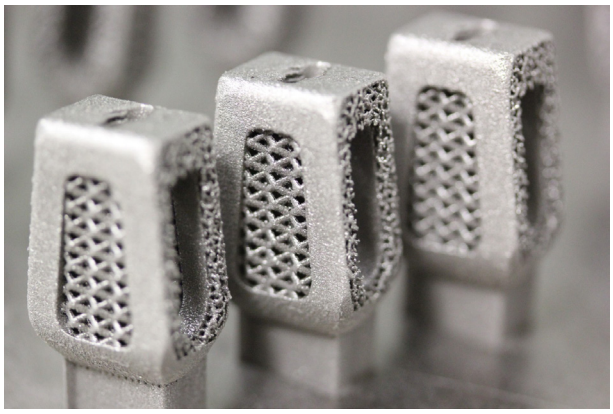


Spineart developed a specific algorithm to enhance the classic additive manufacturing process resulting in a unique bone-like matrix: Ti-LIFE TECHNOLOGY.

Ti-LIFE TECHNOLOGY is a geometry that would not be possible through classic manufacturing processes. The result is a Titanium porous structure similar to natural trabecular bone.

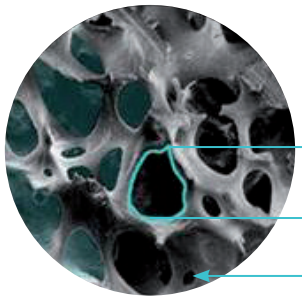
ADDITIVE MANUFACTURING TECHNOLOGY

Additive manufacturing produces a highly cohesive device which differentiates Ti-LIFE TECHNOLOGY from non-porous surface treatments and coating techniques.



TRABECULAR STRUCTURE

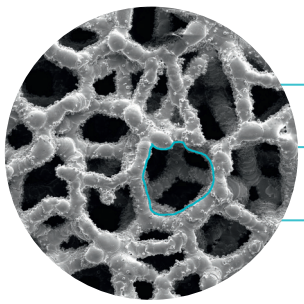
Ti-LIFE structure has an average pore diameter of 0.9 mm, with an overall porosity between 70 and 75 % that enables cell colonization. In comparison, natural bone features around 70-95 % porosity with pore diameter ranging from 0.3 and 1.5 mm.



BONE structure

PORE DIAMETER
0.3 mm to 1.5 mm

OVERALL POROSITY
70-95%



Ti-LIFE structure

OVERALL POROSITY
70-75%

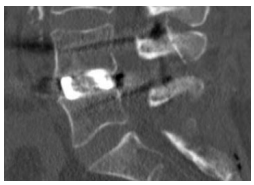
AVERAGE PORE DIAMETER
0.9 mm

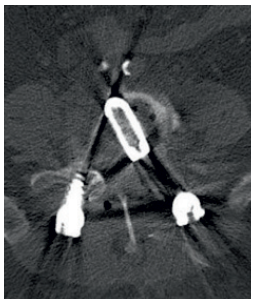
IMAGING

Ti-LIFE TECHNOLOGY allows the design of devices featuring an overall reduced density, which optimize medical imaging and post-operative evaluations.

MRI

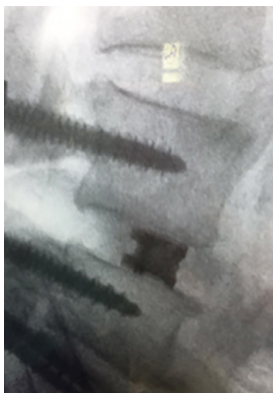
The low density allows canal's investigation





CT scan

Low level of artifacts in CT scan

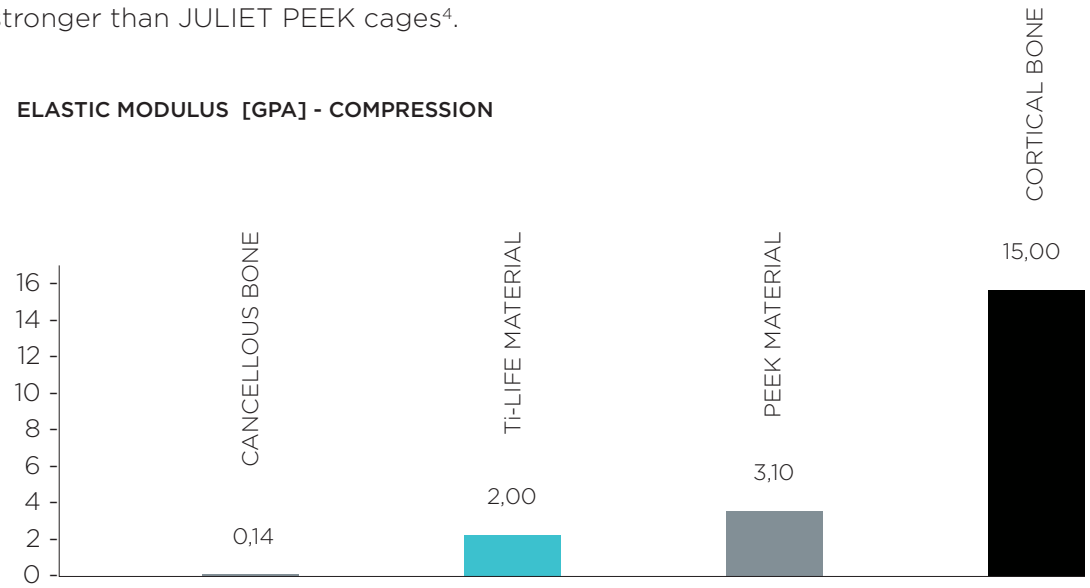


X-RAY

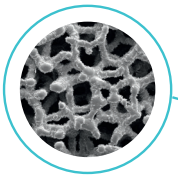
Cage position is clearly identifiable

MODULUS OF ELASTICITY

The Modulus of Elasticity (EM) is influenced by both material characteristics and implant geometry. Ti-LIFE has an EM close to bone, yet JULIET Ti-LIFE cages are stronger than JULIET PEEK cages[4].

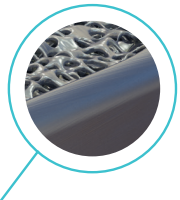


FEATURES AND BENEFITS



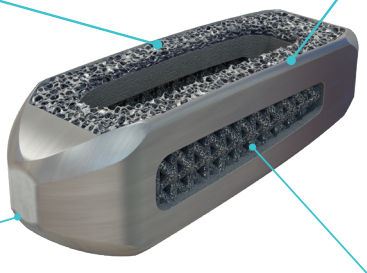
Ti-LIFE TECHNOLOGY

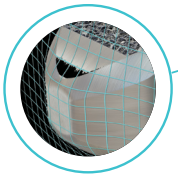
The osteoconductive structure mimics the bone trabecular geometry and is designed to promote bone ingrowth.



SMOOTH CHAMFER

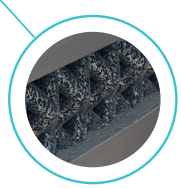
Designed to mitigate the risk of damage to endplates, nerve roots and soft tissue.





SELF-DISTRACTING NOSE

Enabling easy insertion and distraction of the intervertebral space, while mitigating the risk of damage to endplates, nerve roots and soft tissue.

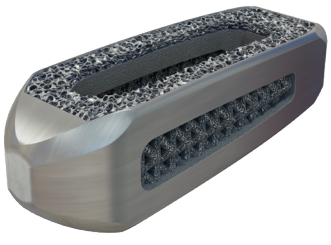


LATERAL GRID

The JULIET Ti design features an overall reduced density for optimal imaging.

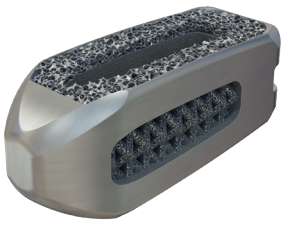
RANGE

JULIET Ti OL



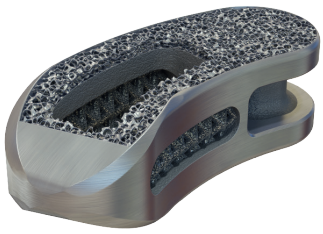
	RANGE
Lenghts	28-32-36 mm
Heights	7 to 14 mm (1mm increment)
Width	10.5 mm
Lordosis	6° / 12°

JULIET Ti PO



	RANGE
Lenghts	24 mm
Heights	7 to 14 mm (1 mm increment)
Width	10.5 mm
Lordosis	6° / 12°

JULIET Ti TL



	RANGE
Lenghts	30-34 mm
Heights	8 to 14 mm (1 mm increment)
Width	10.5 mm
Lordosis	6°

TI-LIFE TECHNOLOGY

Replicates trabecular bone to support cell adhesion and bone ingrowth.
This patented technology is based on a revolutionary algorithm associated with a state-of the-art additive manufacturing process.

MATERIAL

Titanium porous structure and roughness facilitate bone tissue ingrowth [1-2-3].

ARCHITECTURE

Interconnected pores with an overall porosity of 70-75% and an average diameter of 0.9 mm that enable cell colonization.

PROPERTIES

Unique osteoconductive environment designed to promote bone ingrowth.
Overall reduced density for optimal imaging.
Rough surface for primary stability.

[1] In Vivo performance of selective electron beam-melted Ti-&Al-4V structures Ponader, S et al., 2010.
[2] Evaluation of biological properties of electron beam melted Ti6al4V implant with biomimetic coating in vitro and in vivo. Li, X et al., 2012.
[3] Porous titanium-6 aluminium-4 vandium cage has better osseointegration and less micromotion than a poly-ether-ether-ketone cage in sheep vertebral fusion. Yang, J. et al., 2014.
[4] Internal sources

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QUALITY • INNOVATION • SIMPLICITY

1217-V2 ref. JUT-BR CO 01-E