EIT
Emerging
Implant
Technologies

EIT TLIF Cage

For Natural Bone Ingrowth with EIT Cellular Titanium®

EIT Cellular Titanium®

- **EIT Cellular Titanium® implants are produced with Selective Laser Melting (SLM) technique**

- **EIT Cellular Titanium® consists of ~80% porosity and a diamond pore size of ~650 µm, mimicking trabecular bone structure**
  » Bone grafting is not necessary

- **Combination of solid and cellular implant architecture facilitates implant insertion and the rebuilding of the natural bone structure in the lumbar spine**
  » Provides an optimal biomechanical and biological environment for natural bone ingrowth

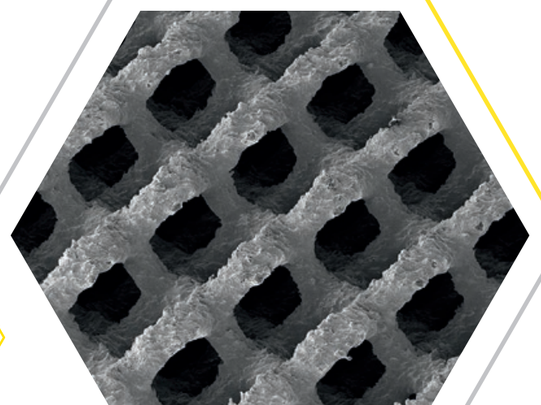
- **Hydrophilic EIT Cellular Titanium®**
  » Maximized blood contact leads to accelerated protein and mesenchymal cell attachment and bone cell differentiation
  » Proven biocompatibility of titanium alloy TiAl6V4[1]

- **Excellent imaging characteristics**
  » X-Ray markers and solid titanium edges provide excellent implant position evaluation
  » Fusion area clearly visible due to high implant porosity
  » CT and MRI compatible (conditional)

[1] Geetha M, Singh AK, Asokamani R, et al. Prog Mat Sci 2009; 54:397-425

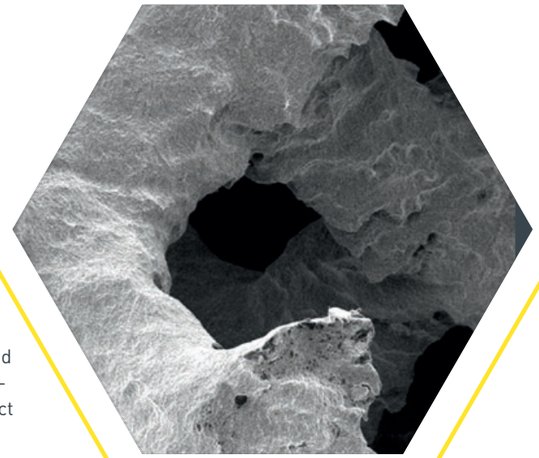
Macro-structure

- Rough EIT Cellular Titanium® surface provides high primary implant stability
- Modulus of elasticity close to cancellous bone avoids stress shielding and implant subsidence



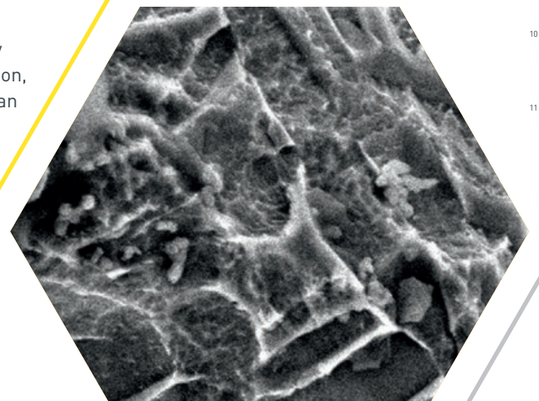
Micro-structure

- Scaffold surface roughness and a ~ 80% diamond shaped porosity provides maximized contact area and mechanical support to bone cells and vascular structures from one endplate to another
- Ideal pore size of ~ 650 µm facilitates a fast natural cellular influx, leading to a solid bony fusion and subsequent secondary stability[2,3,4,5]



Nano-structure

- Post-production implant treatments generate an optimal surface for bone cell proliferation and bone apposition over the entire EIT Cellular Titanium® lattice[6,7,8,9]
- Nano-roughened titanium alloy increases osteoblast proliferation, BMP response and stimulates an angio-osteogenic environment
  » enhances bone formation and fusion[9,10,11]



EIT TLIF Cage

- **EIT Cellular Titanium® provides active fusion area**
  » ~80% porosity
  » ~650 µm diamond pore size
  » open interconnected framework for optimal cell migration and proliferation
  » Bone grafting is not necessary

- **Bullet banana shape in combination with solid edges for smooth introduction along soft tissues and to adapt to endplate anatomy**

- **Suitable elasticity modulus avoids stress shielding and bone resorption**

- **Rough elevated surface provides high primary stability**

- **Various footprint sizes for maximum endplate contact**
  » 10x28 mm » 10x32 mm » 12x32 mm

- **9 heights in 1 mm increments**
  » 7-15 mm

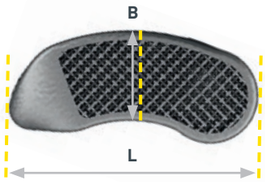
- **0°, 8° and 12° lordosis angle for spinal alignment and sagittal balance**

- **X-ray markers support ideal intraoperative implant positioning and postoperative follow-up**

[2] Nandi SK, Roy S, Mukherjee P, Indian J Med Res 2010; 132:15-30
[3] Fukuda A, Takemoto M, Saito T, Acta Biomat 2011; 7:2327-2336
[4] Van Bael S, Chai YC, Truscello S, Acta Biomat 2012; 8:2824-2834
[5] Wu S-H, Li Y, Zang Y-Q, et al. Art Organs 2013; 37:191-201
[6] Pattanayak D, Fukuda A, Matsushit a T, et al. Acta Biomat 2011; 7:1398-1406
[7] Gittens R, Olvares-Navarrete R, Cheng A, et al. Acta Biomat 2013; 9:626 8 - 6277
[8] Amin Yavari S, Wauthle R, Bottger AJ, et al. App Surf Sci 2014; 290:287-294
[9] Olivares-Navarrete R, Gittens RA, Schneider JM, Spine J 2013; 12:265-272
[10] Sollazzo V, Massari L, Pezzetti F, et al. A Genetic Profiling Evaluation ISRN Mat Sci 2011; art ID 392763
[11] Olivares-Navarrete R, Hyzy SL, Slosar PJ, et al. Implant Materials Generate Different Peri-implant Inflammatory Factors. Spine 2015; 40:399-404

Implants & Instruments

Implants



EIT TLIF Implants									
	10 mm x 28 mm (Width x Length)			**10 mm x 32 mm** (Width x Length)			**12 mm x 32 mm** (Width x Length)		
Height	Lordosis			Lordosis			Lordosis		
	0°	**8°**	**12°***	**0°***	**8°**	**12°**	**0°**	**8°**	**12°***
7 mm	TEI00728			TEI00730			TEI00732		
8 mm	TEI00828	TEI80828		TEI00830	TEI80830		TEI00832	TEI80832	
9 mm	TEI00928	TEI80928	TEI30928	TEI00930	TEI80930	TEI30930	TEI00932	TEI80932	TEI30932
10 mm	TEI01028	TEI81028	TEI31028	TEI01030	TEI81030	TEI31030	TEI01032	TEI81032	TEI31032
11 mm	TEI01128	TEI81128	TEI31128	TEI01130	TEI81130	TEI81130	TEI01132	TEI81132	TEI31132
12 mm	TEI01228	TEI81228	TEI31228	TEI01230	TEI81230	TEI31230	TEI01232	TEI81232	TEI31232
13 mm	TEI01328	TEI81328	TEI31328	TEI01330	TEI81330	TEI31330	TEI01332	TEI81332	TEI31332
14 mm	TEI01428	TEI81428	TEI31428	TEI01430	TEI81430	TEI31430	TEI01432	TEI81432	TEI31432
15 mm	TEI01528	TEI81528	TEI31528	TEI01530	TEI81530	TEI31530	TEI01532	TEI81532	TEI31532

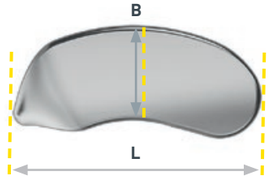
*Implant sizes listed in this column are available on request

Instruments

EIT TLIF Shaver			
H	**REF**	**H**	**REF**
7 mm	PFT10700	**12 mm**	PFT11200
8 mm	PFT10800	**13 mm**	PFT11300
9 mm	PFT10900	**14 mm**	PFT11400
10 mm	PFT11000	**15 mm**	PFT11500
11 mm	PFT11100		

EIT TLIF Distractor			
H	**REF**	**H**	**REF**
7 mm	PET10710	**12 mm**	PET11210
8 mm	PET10810	**13 mm**	PET11310
9 mm	PET10910	**14 mm**	PET11410
10 mm	PET11010	**15 mm**	PET11510
11 mm	PET11110		

Trials



EIT TLIF Trials									
	10 mm x 28 mm (Width x Length)			**10 mm x 32 mm** (Width x Length)			**12 mm x 32 mm** (Width x Length)		
Height	Lordosis			Lordosis			Lordosis		
	0°	**8°**	**12°***	**0°***	**8°**	**12°**	**0°**	**8°**	**12°***
7 mm	TET00728			TET00730			TET00732		
8 mm	TET00828	TET80828		TET00830	TET80830		TET00832	TET80832	
9 mm	TET00928	TET80928	TET30928	TET00930	TET80930	TET30930	TET00932	TET80932	TET30932
10 mm	TET01028	TET81028	TET31028	TET01030	TET81030	TET31030	TET01032	TET81032	TET31032
11 mm	TET01128	TET81128	TET31128	TET01130	TET81130	TET31130	TET01132	TET81132	TET31132
12 mm	TET01228	TET81228	TET31228	TET01230	TET81230	TET31230	TET01232	TET81232	TET31232
13 mm	TET01328	TET81328	TET31328	TET01330	TET81330	TET31330	TET01332	TET81332	TET31332
14 mm	TET01428	TET81428	TET31428	TET01430	TET81430	TET31430	TET01432	TET81432	TET31432
15 mm	TET01528	TET81528	TET31528	TET01530	TET81530	TET31530	TET01532	TET81532	TET31532

*Trial sizes listed in this column are available on request

Trail Inserter	TET20100
Trial Inserter S-Hammer Connection	TET20101
Implant Inserter	TET30100
Implant Inserter S-Hammer Connection	TET30101
Inserter Knob S-Hammer Connection	TET20110

Instruments

Disc Space Opener	PET10050
Impactor	TET30200
Large Impactor	TET30201
Straight handle	PET00920
T-handle	PET00910
Hammer	PET60250
Slap-Hammer	PET60251
TLIF instrument tray	TEC00100

TEM00004 Rev.B

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