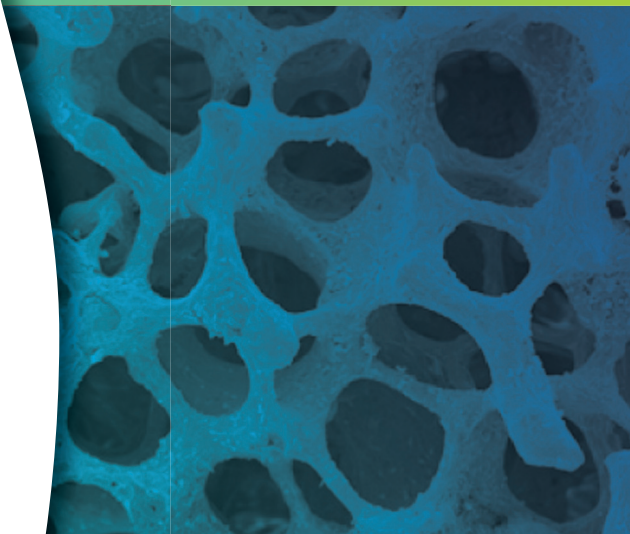


PEEK cage with Hydroxy Apatite



*Bontite<sup>®</sup>-c*

***Bontite<sup>®</sup>***

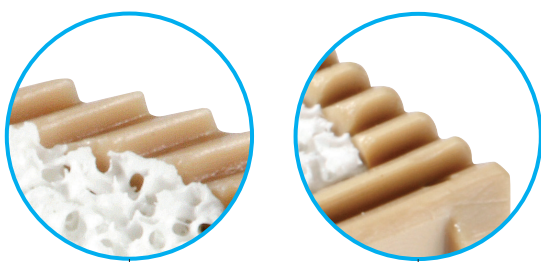


*Bontite<sup>®</sup>-L*

*One step solution  
for Interbody fusion*

## ■ PEEK cage with Hydroxy Apatite

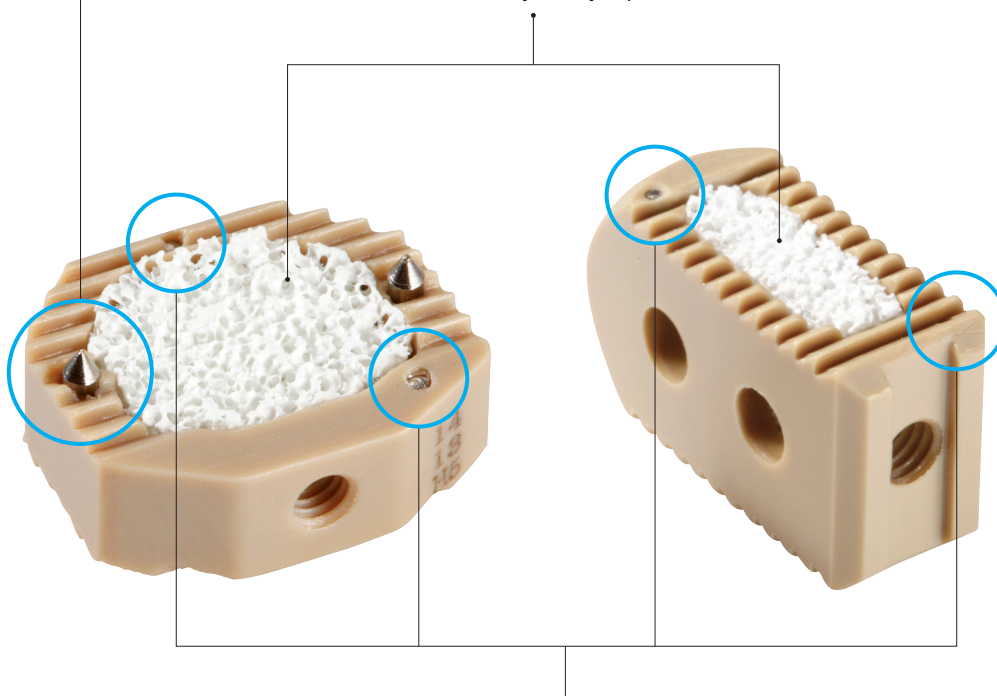
**Bontite®** is pre-filled with insert made of synthetic Hydroxy Apatite cancellous bone substitute, which is similar to human bone mineral component.



- **Prevents migration**
  - Anatomical design
  - Titanium Spike

- **Safe**
  - 100% synthetic -no risk of cross infection.

- **Ready to use**
  - Pre-filled with Hydroxy Apatite cancellous bone substitute.



- **X-ray markers to visualize the cage**
  - Titanium markers integrated

## ■ Bontite® Features

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### 01 | Easy Handling

- Peek cage is pre-filled with a synthetic material which is identical to human cancellous bone, ready to use alone without an additional bone grafting material.
- No need for bone harvesting thus no risk of patient morbidity and potential complications, and reduce operation time.

### 02 | Excellent Bone Fusion

- Bone regeneration of synthetic Hydroxy Apatite is clinically approved.
- 80% of porosity of the insert leads fast and solid bone fusion, which is identical to the 3-dimensional interconnected pore structure of human cancellous bone.

### 03 | Easy Identification after surgery

- Titanium markers to visualize the PEEK cage
- Radiolucent PEEK cage allows easy identification and evaluation of the new bone growth.

## ■ Bontite® Indication

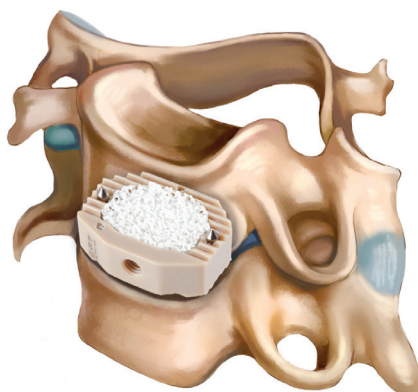
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Disc degeneration

Disc herniation with thinning disc

Spinal stenosis

Spondylolisthesis



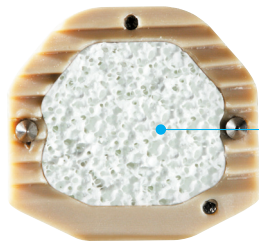
ACDF



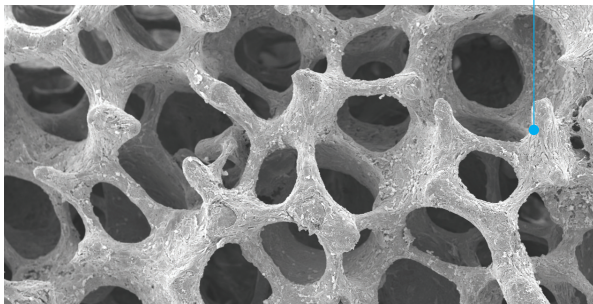
PLIF

## **Bontite® Biocompatibility**

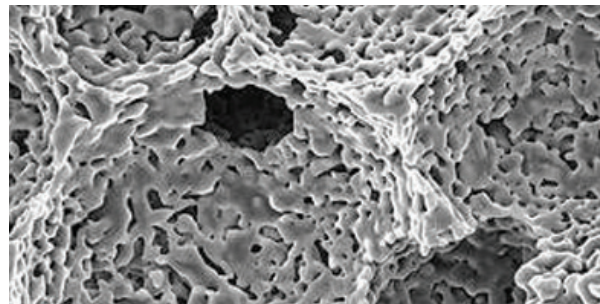
### Pore Structure Comparison (SEM, Scanning Electronic Microscope)



Korean Testing Laboratory,  
American GLP Accreditation Institute Nelson Lab,  
Passed All Biological Safety Test



Interconnected pore structure of Bontite-insert



Pore structure of B-product



300micrometer pore sized

Maximizes of bone and revascularization

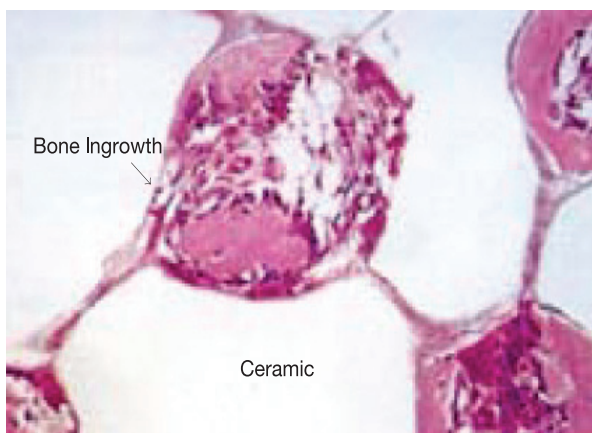
Over 80% of porosity

Maximum effective space for new bone formation

3 Dimensional interconnected structures

Solid and fast bone formation

- **Bontite®** -insert has optimized 3 dimensional interconnected pore structure of 300 micrometer<sup>2)</sup> and 80% of porosity which is identical to human cancellous for new bone formation.<sup>3)</sup>
- **Bontite®** -insert has optimized pore structure and porosity which is easily substituted by the new bone and leads easy absorption and biodegradation.<sup>4)</sup>



Comparison between 2-dimentional Vs. 3-dimentional bone formation.

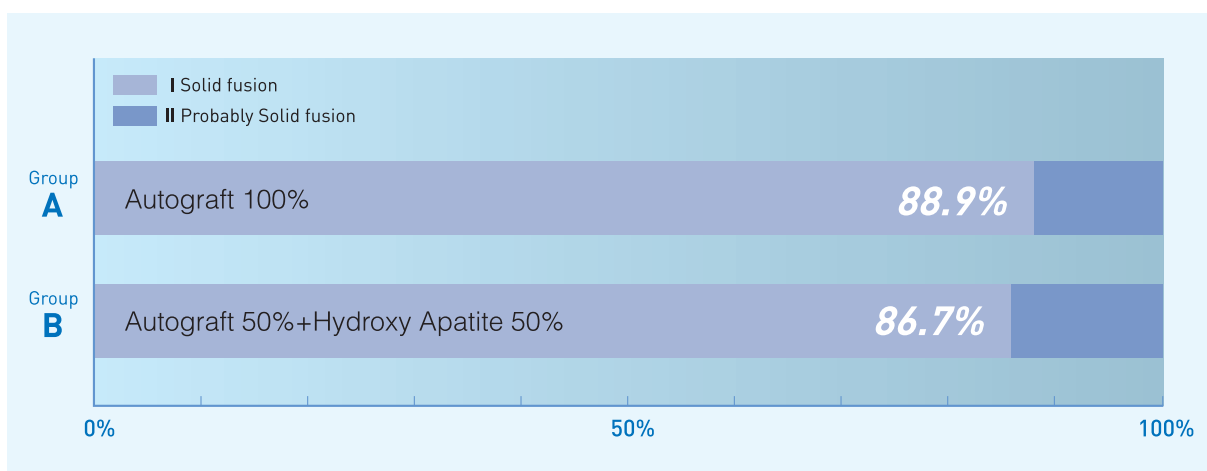


## Clinical Studies<sup>1)</sup>

### Clinical Outcomes

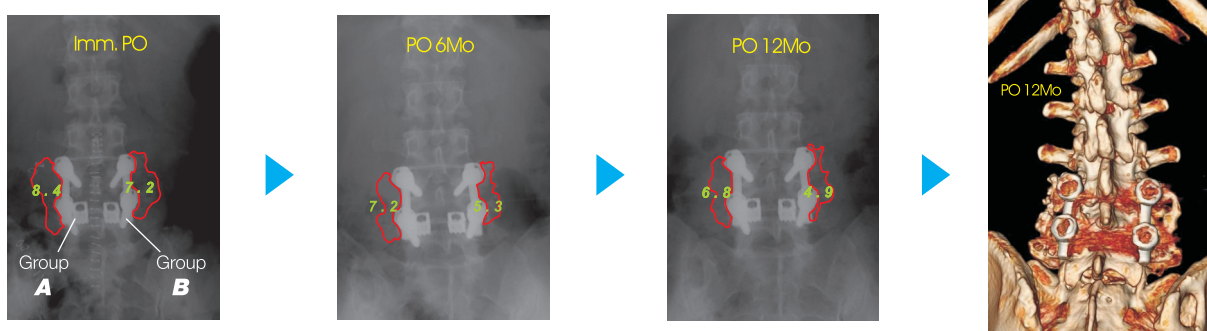
#### Safety and Effectiveness Evaluation

- Period : 2004.3~2005.5
- Institute : Department of Orthopedic Surgery, Seoul National University Hospital
- Procedure : Posterolateral Lumbar Fusion
- Subjects : 32 patients, 47 levels
- Results : Safety-no complications and adverse events.  
R = 97% (3D-CT)  
Complete Fusion Rates - Control group (A) 88.9% (Autograft 100%)  
- Test group (B) 86.7% (1:1 ratio to Autograft:Hydroxyapatite)



#### Bony Union Rate by 3D-CT (After 12Months)

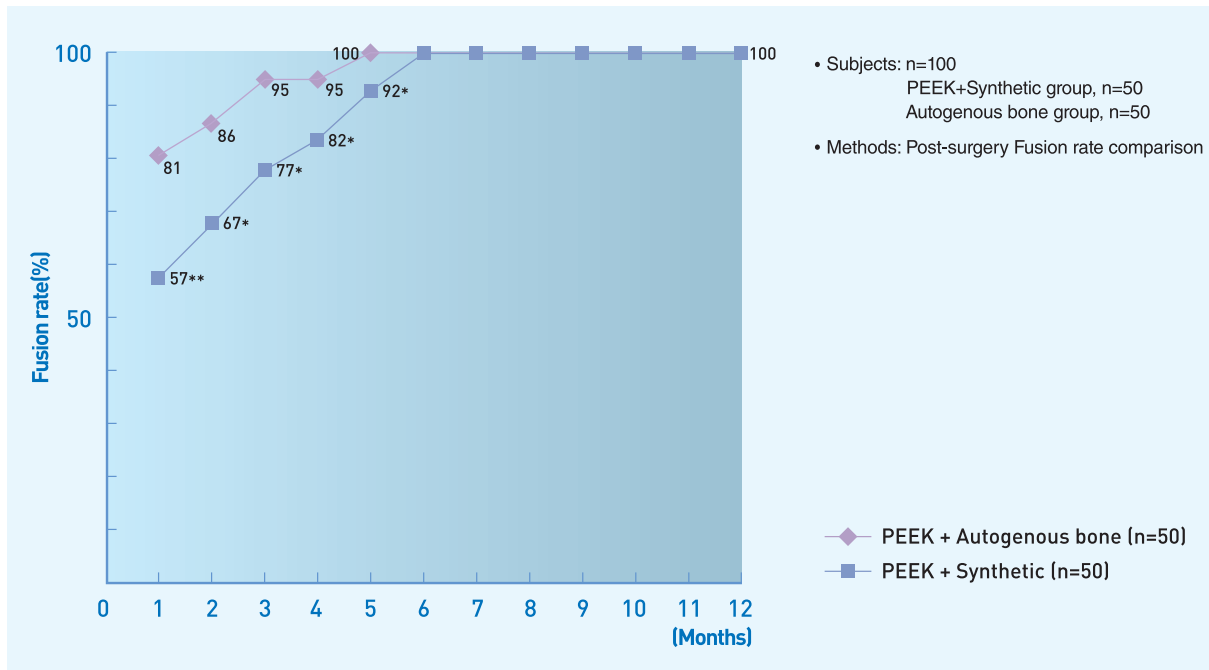
Group A : Autograft 100% Group B : Autograft 50% + Hydroxy Apatite 50%(Volume)



“ J.H.Lee et al, “A Prospective Consecutive Study of Instrumented Posterolateral Lumbar Fusion Using Hydroxy Apatite as a Bone Graft Extender” .Biomed. Mater. Res, 90A, 804-810, [2009] ”

## Clinical Studies

Post 6 months, equivalent fusion rates achieved with PEEK+synthetic group and Autogenous group.<sup>5)</sup>



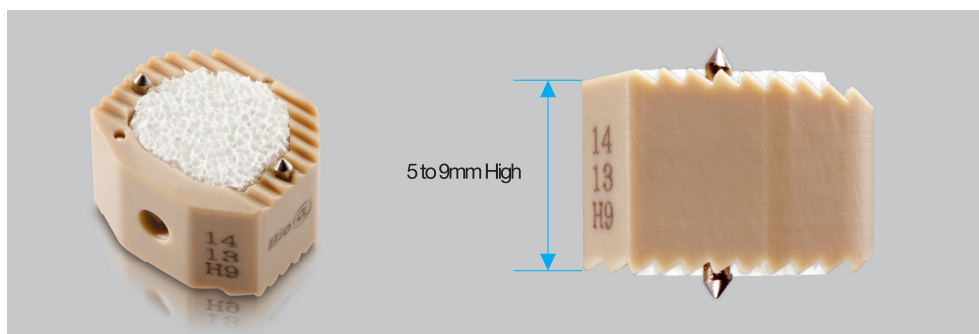
Reduced Hospital stays, Decreased blood loss and complication rates, PEEK + Synthetic is an alternative to bone harvesting.<sup>5)</sup>

Comparison of excessive time, blood loss, complications, iliac grafting, and hospital stays in both groups

	Group A	Group B	P
Excessive operative time(min)	0	15+_5	.0001
Excessive blood loss(mL)	0	10+_6	.0001
Donor site complications	0	6%	.0001
Hospital stay(d)	4.43+_2.36	7.00+_3.77	.002

P : Student t test

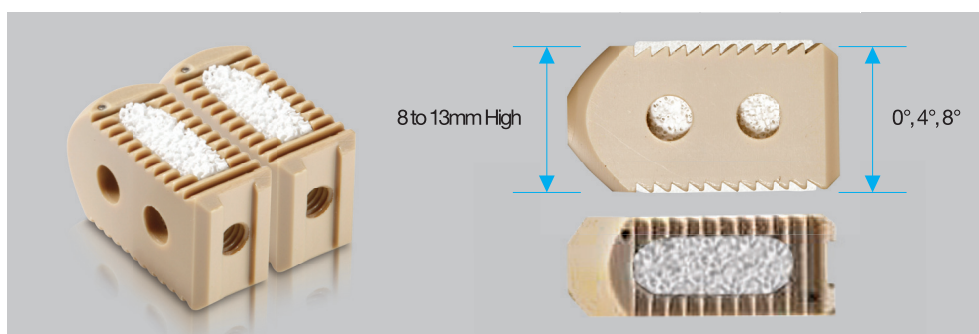
## Bontite®-C



**ACDF** for cervical fusion.

Art no.	W(mm)	L(mm)	H(mm)
CGAC06A05	14	13	5
CGAC06A06	14	13	6
CGAC06A07	14	13	7
CGAC06A08	14	13	8
CGAC06A09	14	13	9

## Bontite®-L



**PLIF** for lumbar fusion.

Art no.	$\theta(^{\circ})$	W(mm)	L(mm)	H(mm)
CGPL00A08	0	9	24	8
CGPL00A09	0	9	24	9
CGPL00A10	0	9	24	10
CGPL00A11	0	9	24	11
CGPL00A12	0	9	24	12
CGPL00A13	0	9	24	13
CGPL04A09	4	9	24	9
CGPL04A10	4	9	24	10
CGPL04A11	4	9	24	11
CGPL04A12	4	9	24	12
CGPL04A13	4	9	24	13
CGPL08A09	8	9	24	9
CGPL04A10	8	9	24	10
CGPL04A11	8	9	24	11
CGPL04A12	8	9	24	12
CGPL08A13	8	9	24	13

# *Bontite*<sup>®</sup>