

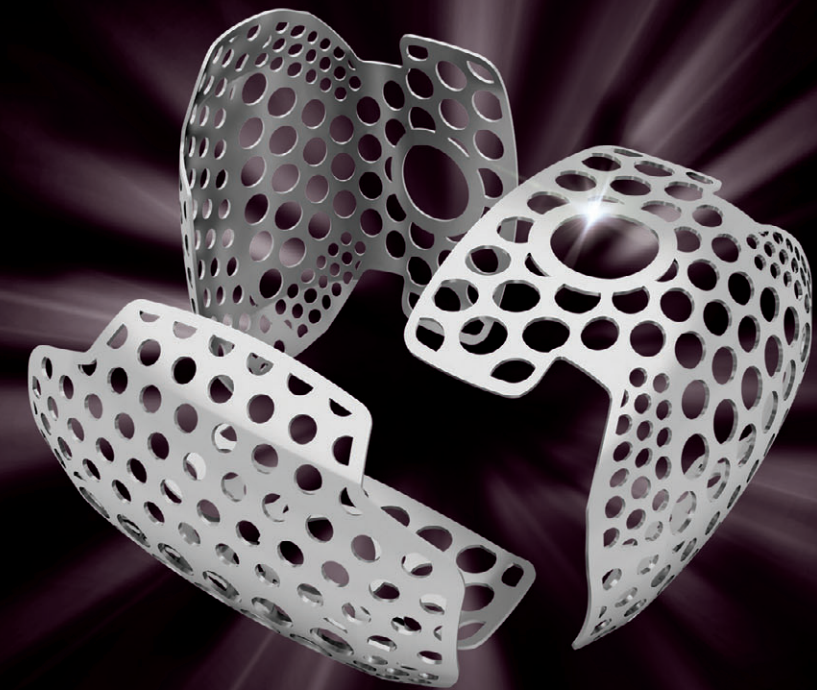
Edition 03 / 2012

SMARTbuilder™

- ✓ SMART 3D Design
- ✓ SMART Use
- ✓ SMART Covering
- ✓ SMART Conduction
- ✓ SMART Healing

SMARTbuilder™

Customized 3D Pre-Formed Titanium Membrane



- ✓ SMART 3D Design
- ✓ SMART Use
- ✓ SMART Covering
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- ✓ SMART Healing

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IMPLANT

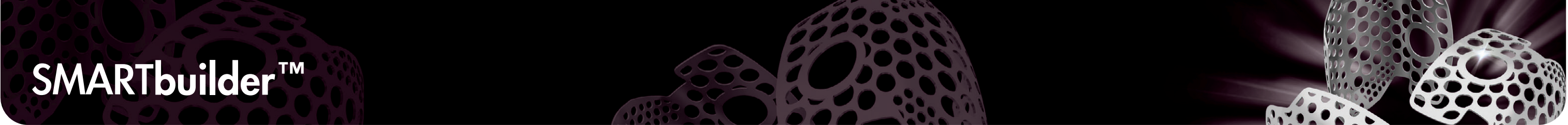
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OSSTEM[®]
IMPLANT



Customized 3D Pre-Formed titanium membrane

Introduction

- SMARTbuilder is the material to stimulate periodontal tissue regeneration and is non-absorbable membrane made of customized titanium material in order to stimulate bone augmentation after bone transplantation at the area having autogenous bone deficiency in the oral cavity.

Features of SMARTbuilder

- 3-Dimension pre-formed shape prevents possible soft tissue exposure caused by wrinkling or folding and operation is possible without trimming or bending.
- **Customized pre-formed shape**
 - Classification into 1 wall augmentation, 2 wall augmentation, and 3wall augmentation by the shape of bone deficiency
 - Smart adaptation of bone deficiency area with customized pre-formed shape
- **Vertical and horizontal bone augmentation**
 - Possible vertical and horizontal bone augmentation at bone deficiency area
- **Blood supply**
 - Formation of pores in the whole membrane and smooth supply of blood
- **Height**
 - Sufficient bone augmentation by over-fill with bone material
 - Compensation of height in case of deep implantation
 - Compensation for gingival height
- **One or two stages surgery**
 - One stage surgery with healing
 - Two stage surgery with a cap



[Healing or Cap + SMARTbuilder + Height + Fixture]

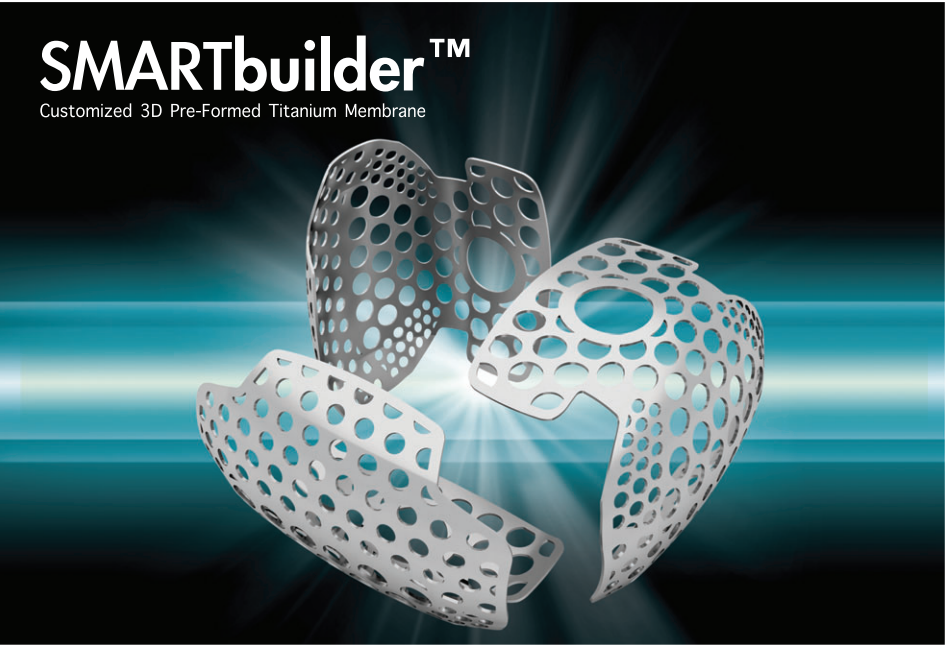
Classification of SMARTbuilder

- **Classification into 1 wall augmentation, 2 wall augmentation, and 3wall augmentation by the shape of bone deficiency**
 - 1 wall augmentation: buccal bone deficiency
 - 2 wall augmentation: buccal proximal (medial - distal) bone deficiency
 - 3 wall augmentation: buccal proximal (medial - distal) and lingual bone deficiency
- **3-Dimension pre-formed shape helps selection of the product to meet the shape and size of bone deficiency.**

Classification	1 wall Augmentation	2 wall Augmentation	3 wall Augmentation
3D Design			
2D Image			

“The difference in completion level determines the difference in expectation level.”

Advantage of SMARTbuilder



- ✓ SMART 3D Design
- ✓ SMART Use
- ✓ SMART Covering
- ✓ SMART Conduction
- ✓ SMART Healing

SMART 3D Design

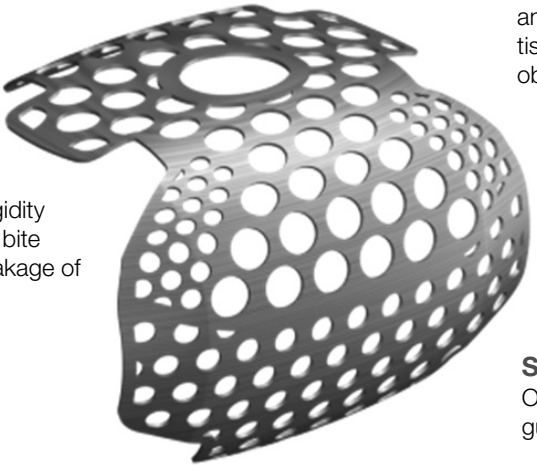
3-Dimension pre-formed design minimizes the exposure of soft tissue caused by wrinkling or folding in bending process.

SMART Use

Trimming or bending is not required and removal is convenient without tissue damage because there is no obstacle.

SMART Covering

Round design and adequate rigidity provides high durability against bite force etc. and minimizes the leakage of bone material.



SMART Conduction

Optimum pores for blood supply guides excellent bone formation.

SMART Healing

Good anchoring and low mobility after surgery, SMARTbuilder has a good function for barrier membrane during bone regeneration.

■ Smart adaptation in defect model by SMARTbuilder

User guide

1. Check the shape of bone deficiency, selection the 1 wall augmentation or 2 wall augmentation or 3 wall augmentation SMARTbuilder.
2. Measure the vertical and horizontal deficiency volume using a defect gauge and select the SMARTbuilder.
3. If the implant is implanted deeply or compensation of the thickness of soft tissue is required, select the specification of Height and connect the selected one with the implant. In this process, 1.2 Hex driver should be used at 12~15Ncm of torque. Where, if the implantation torque of the fixture is low due to bad bone quality or large bone deficiency, check that Height can be installed at the recommended torque before starting surgery in order to improve the clinical prognosis.
4. Transplant the bone at the bone deficiency area in needed quantity.
5. Install the selected SMARTbuilder on Height.

Fix it after bending or trimming to meet the shape of bone deficiency shape by necessity.
6. Fix SMARTbuilder using a healing abutment or cover cap. Where, it should be installed at 5~8Ncm of torque, Healing should be installed using a 1.2 Hex driver, and the cap should be installed using a cap driver. However, cap driver is incompatible with torque wrench. Cap driver is installed by frictional force; if the driver is not easily separated after installation of the cap, remove the driver in left and right slant direction.
7. Suture the gingival.
8. When bone regeneration period has elapsed, remove the Healing or Cap out of oral cavity.

Where, Height can be easily removed using a 1.2 Hex driver with SMARTbuilder together.



1 Wall augmentation - Bone defect at buccal area



Bone defect at buccal area



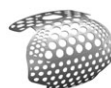
Connected with height



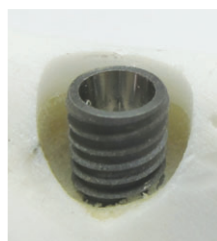
Bone graft



SMARTbuilder adaptation



2 Wall augmentation - Bone defect at buccal and proximal area



Bone defect at buccal and proximal area



Connected with height



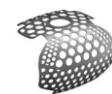
Bone graft



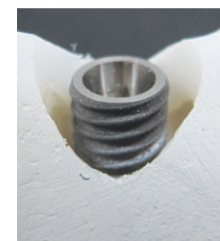
Bone graft



SMARTbuilder adaptation and connected with cover cap



3 Wall augmentation - Bone defect at buccal, proximal and lingual area



Bone defect at buccal, proximal and lingual area



Connected with height



Bone graft



Bone graft

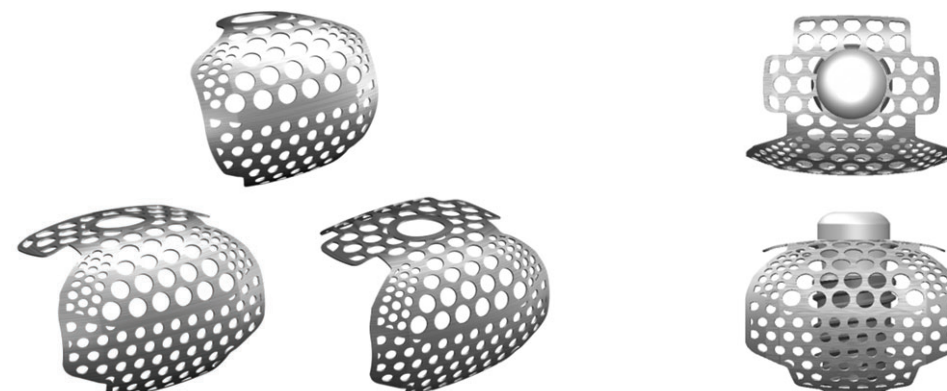


SMARTbuilder adaptation and connected with healing abutment

※ The figure shows the case of dehiscence defect in narrow ridge and is shown in 3-Dimension for possible over filling.
If needed, the left/right and height of the SMARTbuilder may be bent using a hand in order to make the shape of membrane soft without formation of wrinkle trees.

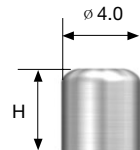
Caution in use

1. SMARTbuilder, Height, Healing Abutment, Cover Cap are gamma irradiated and are provided for disposable use.
2. The products should be used in disinfected environment.
3. Do not use the product of which the package is damaged or expiration date has been elapsed.
4. Do not use the product for the purpose other than GBR(Guided Bone Regeneration) and do not use the product with modification.
5. Surgical tools should be disinfected in an autoclave before use (132°..., 15min).
6. Do not use hydrogen peroxide, which is used for disinfection and washing, because it may damage or discolor the Laser Marking, Anodizing, or color code.
7. Excessive GBR exposes membrane and may result in bone augmentation failure caused by external infection. Therefore, both the operator and patient should be careful to prevent exposure and the patient having membrane exposure should be observed and treated with periodical visit.



■ Components

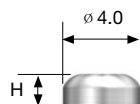
Healing Abutment



		Regular	
D	H	3	4
ø 4.0		SMHA443	SMHA444

- 1 Stage surgery
- Tightening by 1.2 Hex driver
- Tightening torque : 5~8N.cm

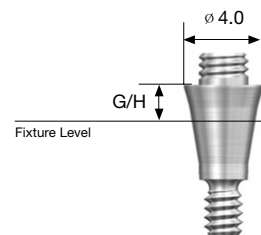
Cover Cap



		Regular	
D	H	1.5	
ø 4.0		SMCC415	

- 2 Stage surgery
- Tightening by Cover cap driver
- Tightening torque : 5~8N.cm

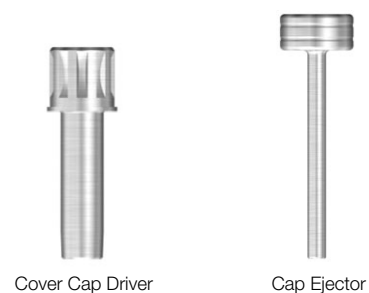
Height



		Regular			
D	G/H	0.5	1.0	1.5	2.0
ø 4.0		SMHI405E	SMHI410E	SMHI415E	SMHI420E

- 2 Stage surgery
- Tightening by 1.2 Hex driver
- Tightening torque : 12~15N.cm

Cover Cap Driver Ejector Set



Code	SMCDES
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- Tighten the Cover Cap
- Friction fit mechanism
- Cover cap remove by a Cap ejector
- Cap driver and Cap ejector set

Defect Gauge



Code	SMDG
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- Measuring of bone defect size
- Marking : Bold lines of 4-5, 9-10, 14-15, Standard lines of each step 1mm

■ Classification of SMARTbuilder

Classifi cation	SMARTbuilder		P (Proximal)	BW (Buccal width)	BL (Buccal Length)	BD (Buccal Distance)	Code
	3D	2D Image					
1 Wall augmentation 			4	8	7	5.5	SM1W487SB
			4	10	7	5.5	SM1W4107SB
			4	10	9	5.5	SM1W4109SB
2 Wall augmentation 			7	9	7	5.5	SM2W797SB
			7	9	9	5.5	SM2W799SB
			10	12	7	5.5	SM2W10127SB
			10	12	9	5.5	SM2W10129SB
			12	12	7	5.5	SM2W12127SB
			12	12	9	5.5	SM2W12129SB
3 Wall augmentation 			7	9	7	5.5	SM3W797SB
			7	9	9	5.5	SM3W799SB
			10	12	7	5.5	SM3W10127SB
			10	12	9	5.5	SM3W10129SB
			12	12	7	5.5	SM3W12127SB
			12	12	9	5.5	SM3W12129SB