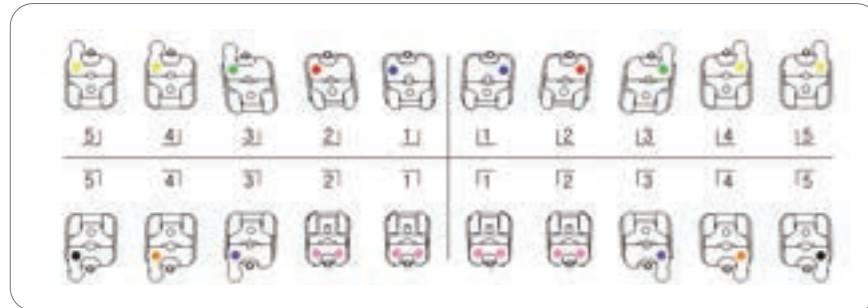


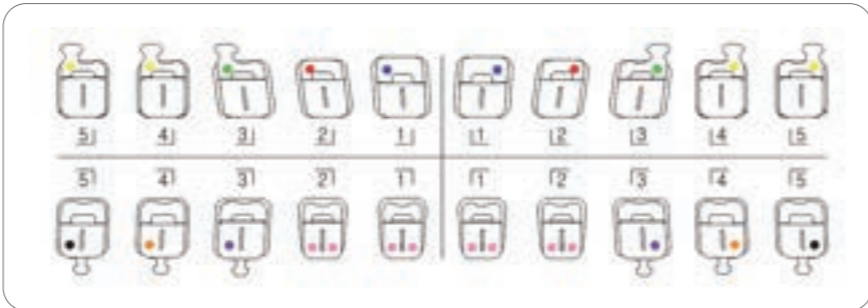
WORLD BIO TECH

The Medical Partner for a Better Future

Selpro A Color Marking



Selpro P Color Marking



Selpro A & P Prescription

ROTH .018 / .022				MBT .022			
	Tooth	Torque	Ang		Tooth	Torque	Ang
Maxillary	Central	12°	5°	Maxillary	Central	17°	4°
	Lateral	8°	9°		Lateral	10°	8°
	Cuspid with Hook	-2°	11°		Cuspid with Hook	0°	8°
	1 st Bicuspids with Hook	-7°	0°		1 st Bicuspids with Hook	-7°	0°
	2 nd Bicuspids with Hook	-7°	0°		2 nd Bicuspids with Hook	-7°	0°
Mandibular	Anteriors	0°	0°	Mandibular	Anteriors	-6°	0°
	Cuspid with Hook	-11°	7°		Cuspid with Hook	0°	3°
	1 st Bicuspids with Hook	-17°	0°		1 st Bicuspids with Hook	-12°	2°
	2 nd Bicuspids with Hook	-22°	0°		2 nd Bicuspids with Hook	-17°	2°

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Active Self-Ligating Ceramic Bracket



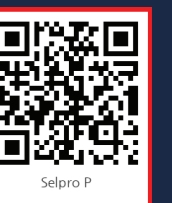
Passive Self-Ligating Ceramic Bracket

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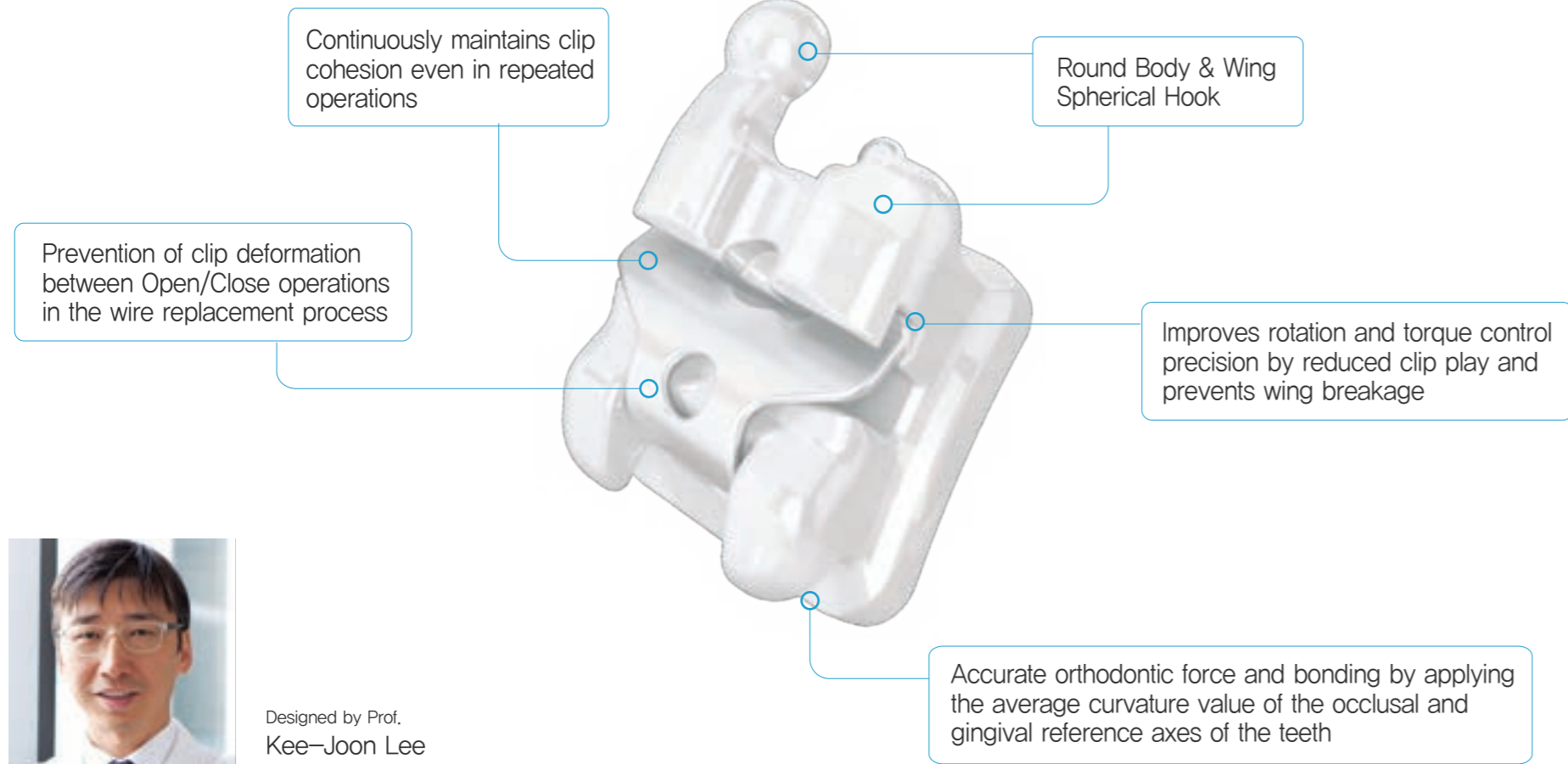
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Selpro A

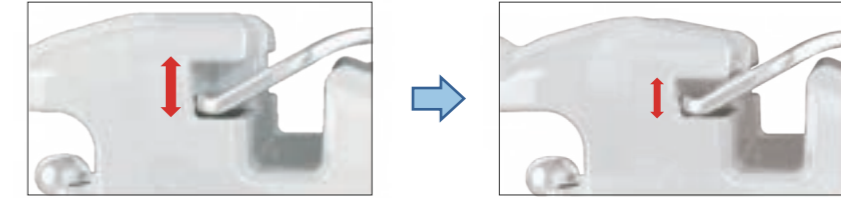
Active Self-Ligating Ceramic Bracket

"Precise Self Ligating Ceramic Bracket System"



Designed by Prof. Kee-Joon Lee
Yonsei University Dental Hospital

"For Self-Ligating Ceramic Bracket, Detail is important"



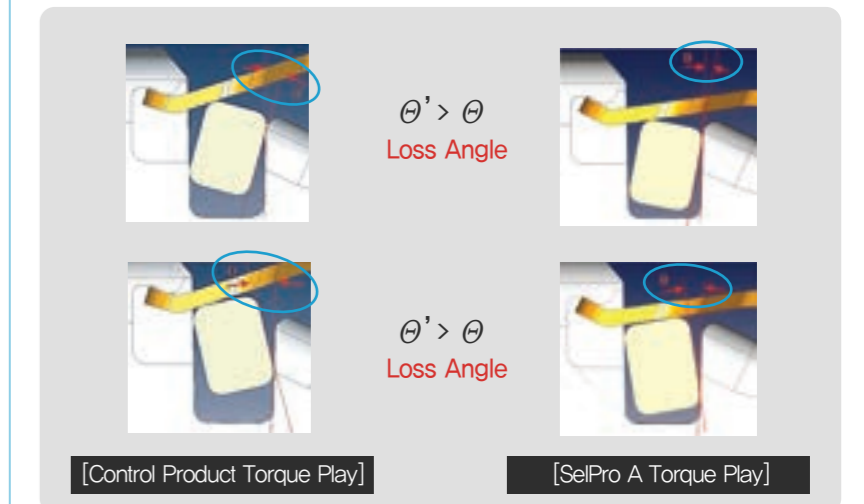
Clip play minimization

- ▶ Prevention of clip deformation and improvement of stiffness by realizing precise dimensions of the binding area of clip and bracket
- ▶ Strong clamping force of wire due to narrow gap preventing clip opening barrier
- ▶ **Precise Clip Play** : Increased rotation and torque control precision by reducing clip play compared to the control group
- ▶ **Precise Clip Insertion Slot** : Fracture prevention due to increased bracket wing thickness

Bracket Wing Thickness Comparison



Torque Play Simulation



Selpro A

Active Self-Ligating Ceramic Bracket

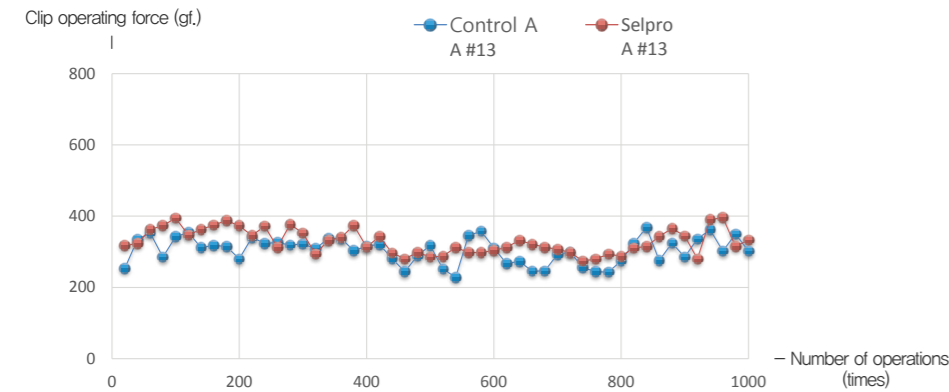


Push Pull Digital Machine
(Test Equipment Name)

How to test the clip operability

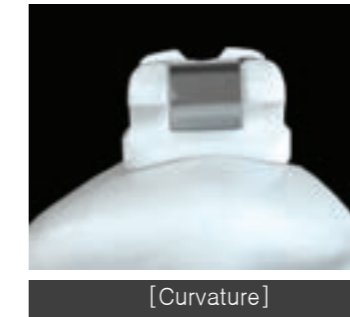
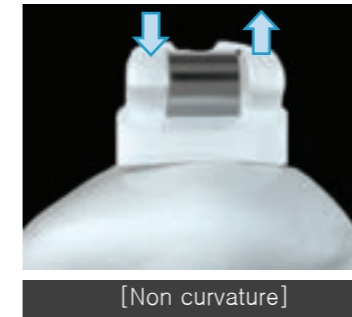
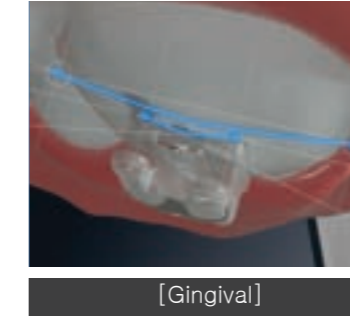
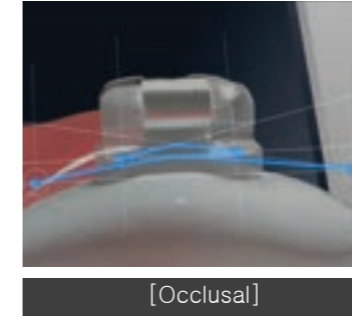
- ▶ Strong binding force of the Clip compared to the control group
- ▶ Maintaining clip cohesion even after repeated operation
- ▶ Prevention of clip deformation between Open and Close operations during wire replacement
- ▶ Continuously maintaining strong fixing force to the wire according to the improvement of the clip

Clip Operability Test Result



	Control A	Selpro A
Avg.	304 gf.	329 gf.
Max.	369 gf.	396 gf.
Min.	228 gf.	274 gf.
Standard Deviation	37 gf.	35 gf.

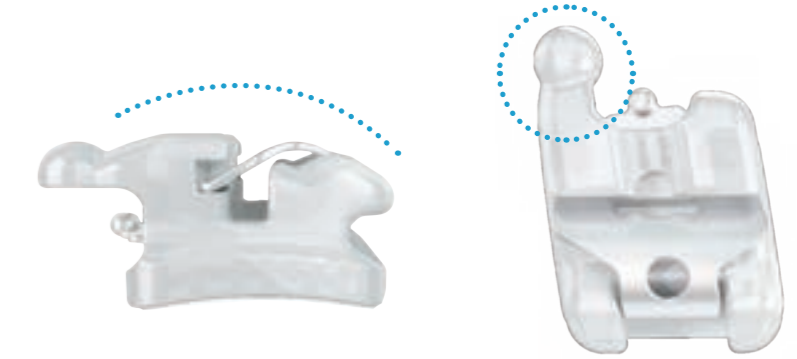
Testing institution : KCL
(Korea Institute of Construction and Living Environment Testing)



Apply Global Citizen Curvature Big Data

The average curvature values of the occlusal and gingival axes of the tooth are applied.

Precise Canine Curvature : Maximizes the convenience of adjusting the rotation of canines and premolars by forming a curvature that fits the teeth



Round Body & Wing and Spherical Hook

Spherical hook that minimizes the contact surface in the oral cavity
Round design applied to reduce foreign body sensation and pain



Mandibular Anterior Morphology

Rhombus – shaped base design tailored to the tooth shape
Prevention of interference between adjacent teeth and securing of IBD (Inter Bracket Distance)

Selpro P

Passive Self-Ligating Ceramic Bracket

“Precise Self Ligating Ceramic Bracket System”

UBH/DBH structure with operability implemented

Comfortable **Spherical Hook**

Increase **Rotation Control** by realizing the maximum width of Ceramic Cap

Tie Groove Structure with Simulation analysis

Stable cap structure by CAE structure analysis

Delivering accurate orthodontic force and bonding by applying the average curvature value of the occlusal and gingival reference axes of the teeth



Designed by Prof. Kee-Joon Lee
Yonsei University Dental Hospital

“Detail is important for Self Ligating Ceramic Bracket.”



► Super Rotation Control Moment

15 ~ 43% higher rotation control moment than the control group

	Selpro P	Control U	Control S	Control D
Cap Width	3.76 mm	3.43 mm	1.81 mm	1.50 mm
Eq.	<p>Selpro P Moment Compared to Control U 15% ↑ Compared to Control S 35% ↑ Compared to Control D 43% ↑</p> <p>* Even with the same load, the Selpro P can easily move with a wide angle of tooth rotation..</p>			

► Minimum Rotation Loss Angle

Minimize wire inclination angle by realizing maximum ceramic cap width (Loss angle)
 Reduced Wire Loss Angle Increases Available Angle (Available Angle)

Selpro P

Passive Self-Ligating Ceramic Bracket



▶ **Stable cap structure by CAE structure analysis**

Improved cap drop-off strength by applying PPC structure with increased resistance to wire load

▶ **Application of UBH /DBH structure with operability implemented**

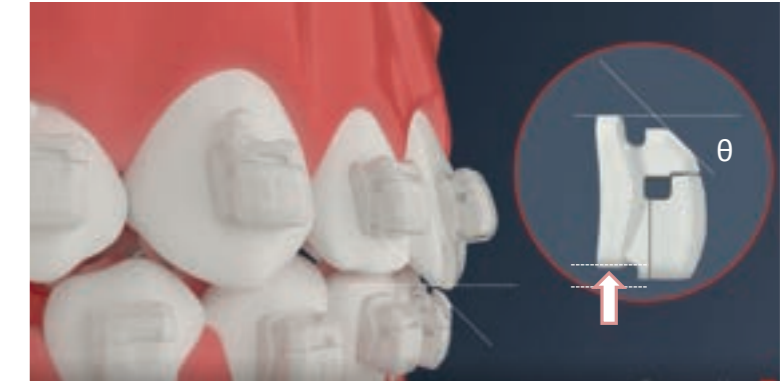
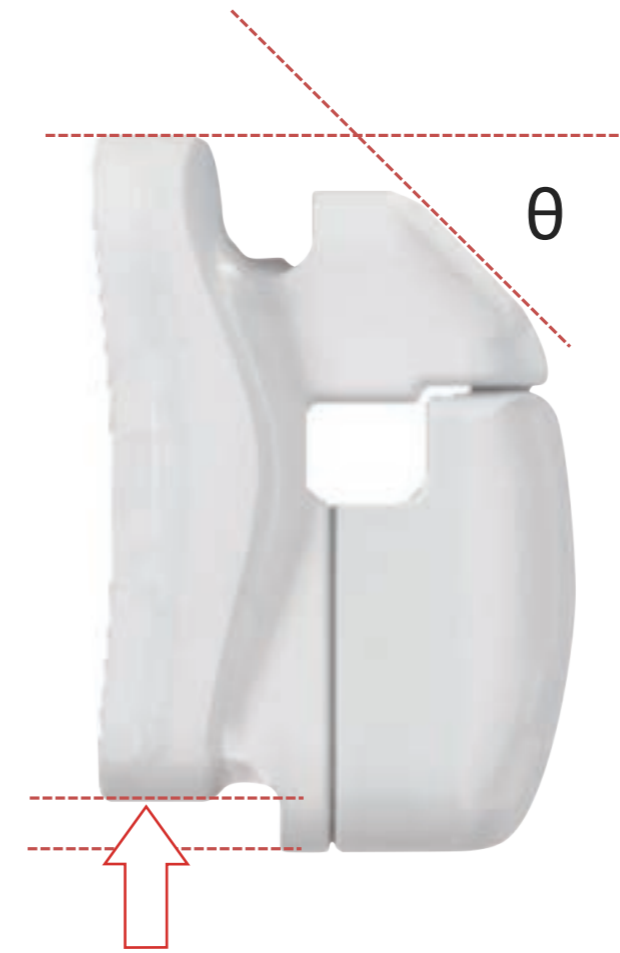
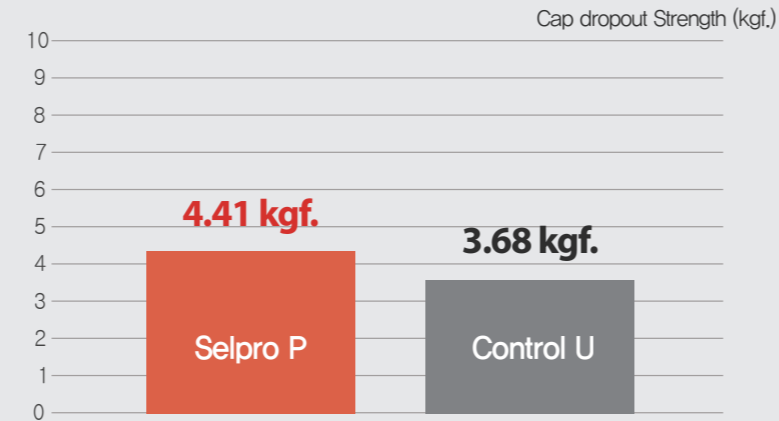
Improved open/close operation by applying patented UBH / DBH structure

〈How to measure the strength of ceramic cap falling〉



Testing institution : KCL
(Korea Institute of Construction and Living Environment Testing)

Ceramic Cap Falling Strength Measurement Result



▶ **Safe Overbite – Overjet Structure**

Mandibular Bracket's wing has the inclined structure to minimize interference to the upper incisors.
Base Design for convenience of Mandibular Bracket position



▶ **Mandibular Anterior Morphology Design**

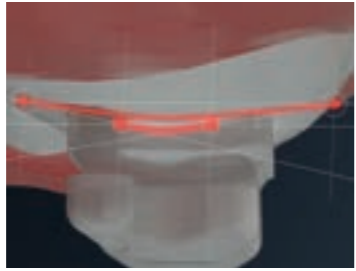
Rhombus-type base design tailored to the tooth shape
Prevention of interference between adjacent teeth and securing of IBD (Inter Bracket Distance)

Selpro P

Passive Self-Ligating Ceramic Bracket



[Occlusal]



[Gingival]



[Non curvature]



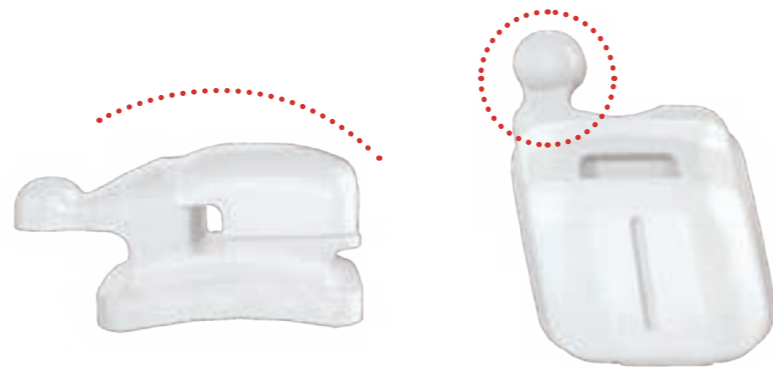
[Curvature]

▶ Global Citizen Curvature Big Data Applied

Global Citizen Big Data Calculation

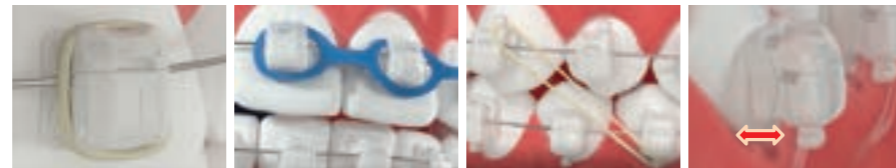
Applying the average curvature value of the tooth occlusal

Precise Canine Curvature : Maximize the convenience of canine and premolar rotation adjustment



▶ Comfortable Spherical Hook

Spherical Hook that minimizes the contact surface in the oral cavity
Glass surface treatment to reduce foreign body sensation and pain



▶ Tie Groove Structure with Simulation Analysis

Enhancements for Ligation in Elastic

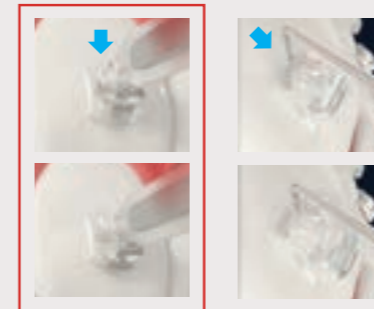
▶ Mandibular Central Inclined Hook Structure

Applying a gradient that minimizes gingival interference
Mandibular premolar Central Hook Positioning improves foreign body sensation, pain reduction and elastic ligation

Selpro A

Active Self-Ligating Ceramic Bracket

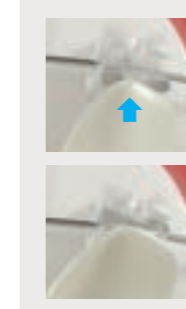
Open



▶ Recommended to Use

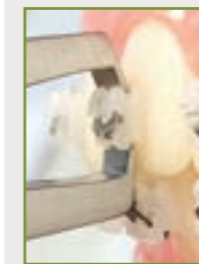
After placing the opener tip between the body and the clip, press down to open the clip.

Close



Close the clip by sliding it with your fingertips.

Debonding



P181
Clip Opener



P180
Opening Tool



P127-1 Ceramic
Debonding Plier

By fixing the debonding plier tip between the bracket wing and the base, lightly apply up and down force.

Selpro P

Passive Self-Ligating Ceramic Bracket

Open



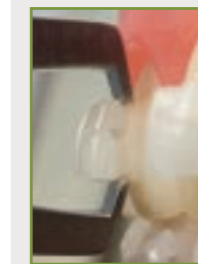
After placing the opener tip between the body and the door, open the door by turning it clockwise or press down.

Close



Close the door by sliding it with your fingertips.

Debonding



P182
Door Opener



P181
Clip Opener



P127-1 Ceramic
Debonding Plier

By fixing the debonding plier tip between the bracket wing and the base, lightly apply up and down force.