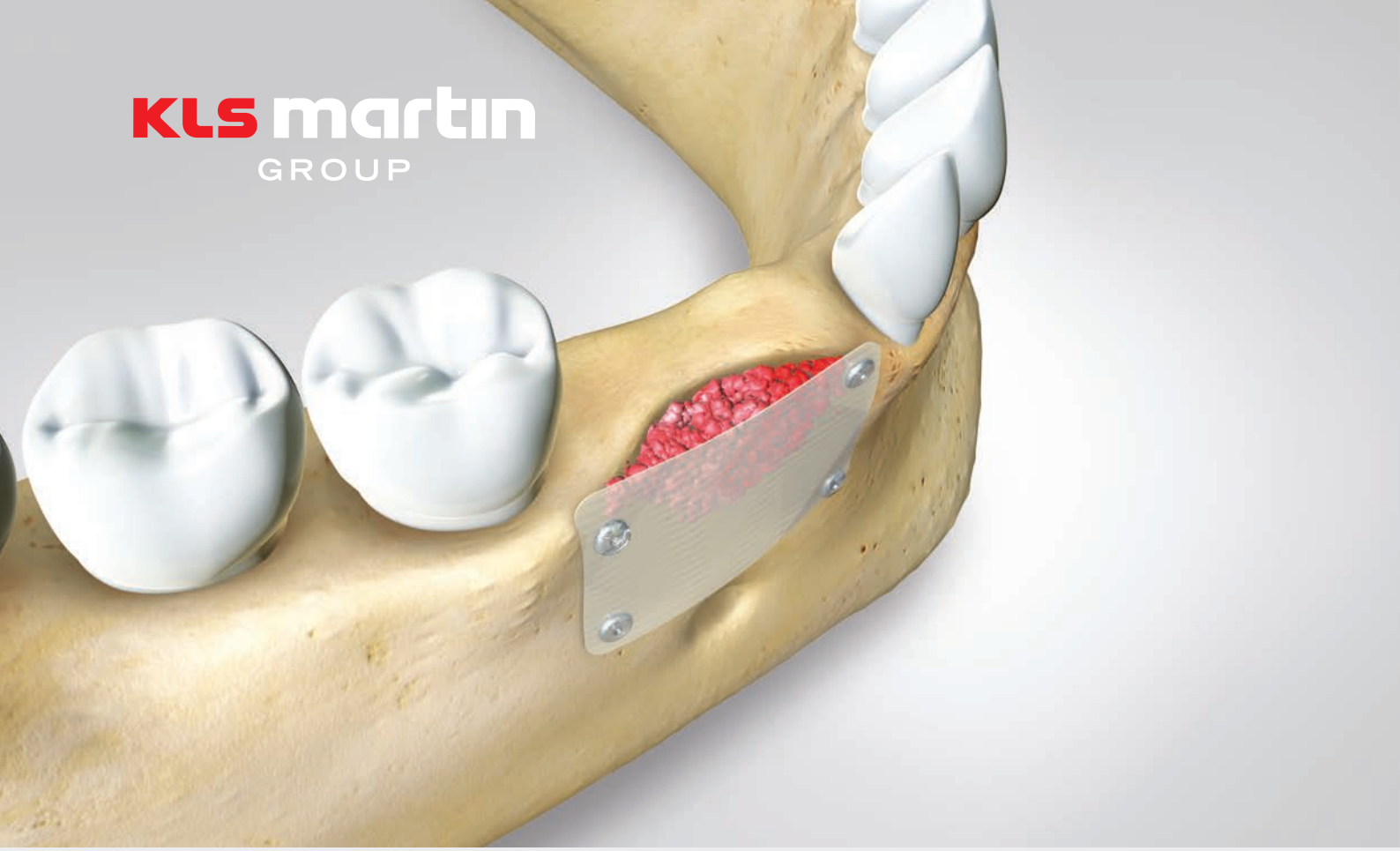
KLS martin GROUP



SonicWeld Rx® Dental

Dental Applications

www.klsmartin.com

Oral and maxillofacial surgery is our passion! Its further development, together with our customers, is our ambition. Day in, day out, we work to develop innovative products and services that satisfy the highest quality demands and contribute to the patient's well-being.

Table of Contents


KLS martin
SonicWeld Rx®

SonicWeld Rx® Dental
Dental Applications

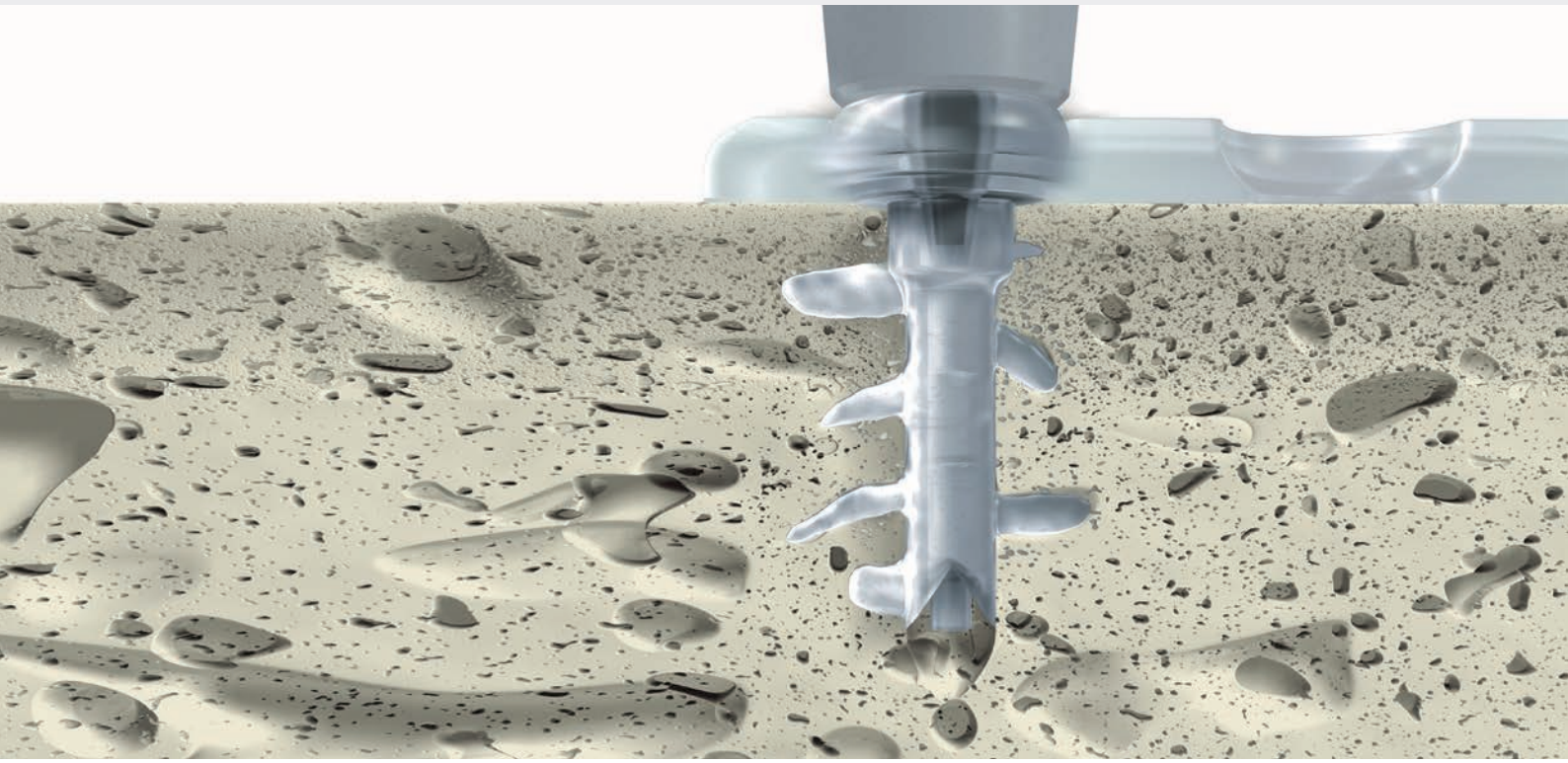
Following the loss of one or more teeth, the alveolar ridge is usually resorbed quickly. To create a solid foundation for the implants, the bone must be augmented horizontally and sometimes also vertically.

SonicWeld Rx® opens up new opportunities here, enabling shorter times for surgery and avoiding secondary interventions because metal removal is no longer required – much to the benefit of the patient.

A solution that vanishes – for a smile that stays

SonicWeld Rx® Dental gives you perfect control of the jawbone and fixation of implants. You shape the alveolar ridge in three dimensions according to your preferences with foils, membranes, alveolar protectors, and SonicPins Rx® depending on the indication. After regeneration of the bone base, the barriers and SonicPins Rx® slowly dissolve and are eliminated naturally. Secondary interventions to remove non-resorbable materials such as meshes or screws are therefore unnecessary. All that remains is a solid foundation for lasting implants.

Feature, Function and Benefit

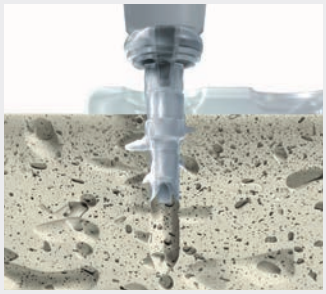
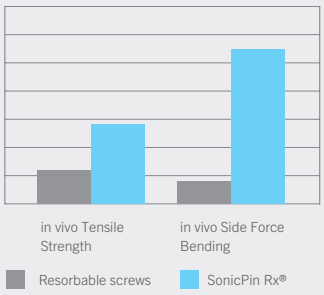
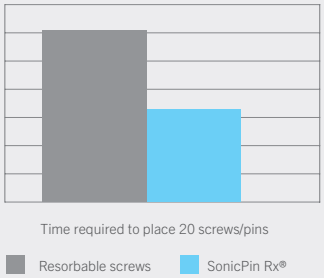


SonicWeld Rx® is a revolutionary technique for use in craniomaxillofacial osteosynthesis. It combines highly advanced ultrasound technology with resorbable implants to provide extremely stable fixation and completely eliminate the need for a second operation.

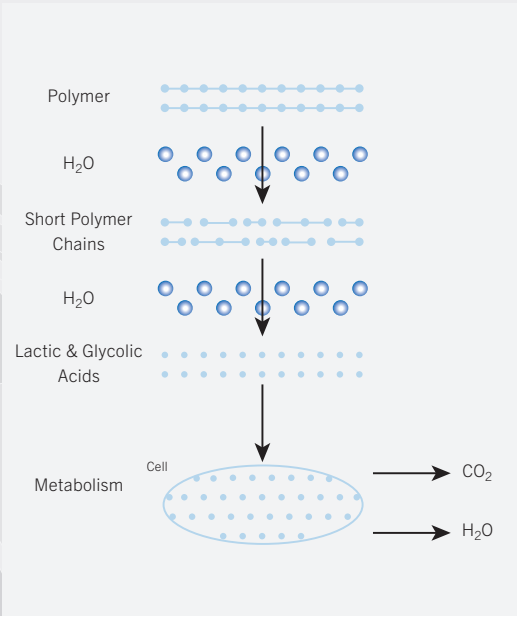
The procedure is simple: resorbable meshes are heated up, shaped to fit the application site and then fixed in place with SonicPins Rx® inserted into predrilled holes. This is done with a sonotrode that liquefies the pins, thus causing them to bond with the meshes and penetrate into the bone cavities to anchor themselves securely.

The method is clinically certified and validated and very patient-friendly as well. The implants degrade through natural hydrolysis in a controlled process. SonicWeld Rx® is primarily stable, convenient, fast, easy and safe. Designed for cranial fixation, ideal for pediatric trauma, and indicated also for cancellous bone structures.

SonicWeld Rx®

	Feature and Function	Benefit
	■ The ultrasonic energy sets the SonicPin Rx® into mechanical vibration	■ The material liquifies at the interface between the pre-drilled bone and the SonicPin Rx® via friction
	■ The liquid SonicPin Rx® penetrates into the bone cavities	■ The material reaches bone cavities beyond the reach of common screws
	■ The principle works both in cortical and cancellous spongious bone	■ Excellent three-dimensional stability both in cortical and spongious bone
	■ Low power effort during SonicPin Rx® insertion	■ Particularly effective in poorer bone quality ■ Repositioning of small bone fragments
	■ Implantation of the SonicPin Rx® in angle position is possible	■ Especially suitable in cramped corners without dislocation
	■ Maximum temperature increase of the bone at about 1 mm from the implant: 11 °C	■ Maximum bone temperature is below denaturing temperature of 56 °C ■ No bone necrosis
	■ Only 30 - 40 seconds after SonicPin Rx® insertion, temperature increase is below 5 °C	■ Fast cooling down of the material and surrounding bone ■ Secure anchorage of the SonicPin Rx® in the bone only three seconds after activation
	■ No risk of pin/screw breakage	■ No emergency system is necessary
	■ Locking effect between the SonicPin Rx® and the pre-drilled hole	■ Due to the double locking mechanism extremely stable fixation of the SonicPin Rx® in the pre-drilled hole
	■ Locking effect between the SonicPin Rx® head and the plate	■ With SonicPins Rx® twice the strength compared to conventional resorbable screws can be achieved
	■ Locking mechanism can be reversed by drilling through the inserted SonicPin Rx®	■ Simple implant removal ■ Simple correction of the implant position
	■ No need for pre-tapping	■ Exceptionally fast implantation of the SonicPin Rx® ■ Reduction in surgical time

Feature, Function and Benefit



Two resorbable polymers for osteosynthesis, PDLLA and PLLA-PGA, have been well-established in craniomaxillofacial surgery.

Resorb x polymer is a 100% Poly-D,L-Lactic Acid (PDLLA).

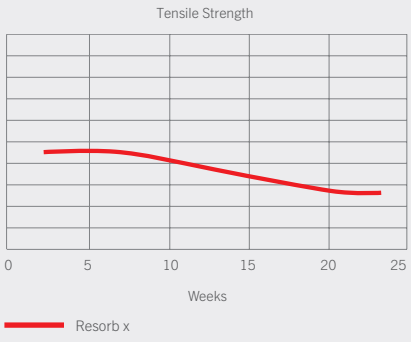
Resorb xG polymer consists of 85% Poly-L-Lactic Acid (PLLA) and 15% Poly Glycolic Acid (PGA).

Both resorbables maintain the majority of their strength for 8-10 weeks, allowing complete fracture healing and bone regeneration.

The core of the degradation process:
The complex polymer chains absorb the water contents (H_2O molecules) of surrounding body fluids through a process called “hydrolysis”.
The stored water initiates the degradation process by continuously breaking down the long polymer chains into ever shorter structures or simpler molecules.
Metabolic pathways subsequently transform the molecules into carbon dioxide and water; both of these compounds are discharged naturally.

SonicWeld Rx®

Resorb x



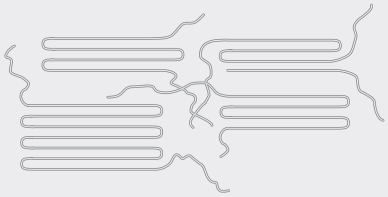
Feature and Function

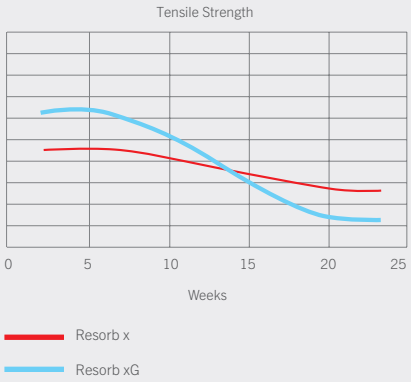
- Polymer consists of 100% Poly-D,L-Lactic Acid (PDLLA)

Benefit

- Totally amorphous polymer
- Residue free degradation
- Numerous animal and clinical studies prove excellent biocompatibility and a safe degradation process.
- Resorption time observed in ultrasound follow-up: 12 - 30 months

Resorb xG





- Polymer consists of 85% Poly-L-Lactic Acid (PLLA) and 15% Poly Glycolic Acid (PGA)

- Higher initial strength
- Faster decrease of both strength and mass
- Resorption time: approximately 12 - 14 months

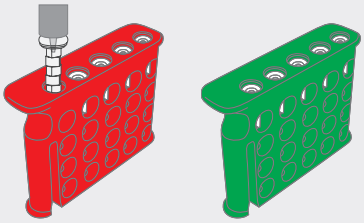
Feature, Function and Benefit

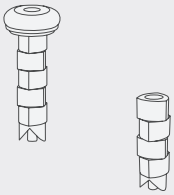
SonicPins Rx® are characterized by their unique geometry. The geometry guarantees maximum polymer outflow in the surrounding bone cavities during SonicPin Rx® insertion. Thus reducing the power effort for SonicPin Rx® insertion to a minimum. Sonic Pins Rx® are available in two diameters:

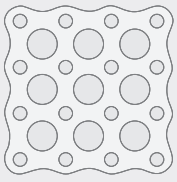
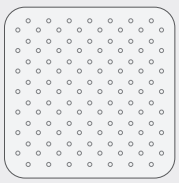
- **green clip:** Ø 1.6 mm
- **red clip:** Ø 2.1 mm

Resorbable implants are available in various designs and thicknesses to give the surgeon options to match every indication. The holes of the plates and meshes are perfectly adapted to the geometry of the SonicPins Rx®. Thus the head of the SonicPin Rx® is optimally countersunk in the implant.

SonicWeld Rx®

SonicPins Rx®	Feature and Function	Benefit
	■ Color-coded clip magazines ■ green: SonicPins Rx® Ø 1.6 mm ■ red: SonicPins Rx® Ø 2.1 mm	■ Easy identification of the appropriate SonicPin diameter
	■ Self-retaining pin head	■ Convenient pin removal from clip magazine
	■ Optimized pin geometry	■ Maximum polymer outflow in the surrounding bone structure ■ Easy pin insertion
	■ Both SonicPin Rx® sizes fit all implants of Resorb x and Resorb xG product range	■ Complete cross compatibility
	■ Sterile delivery	■ Always ready to use

SonicPin Rx® types		
	■ Standard SonicPin Rx®	■ Perfect solution for a wide range of applications
	■ Micro SonicPins Rx® without pin head	■ Ideal for narrow spaces, e. g. preprosthetic augmentation

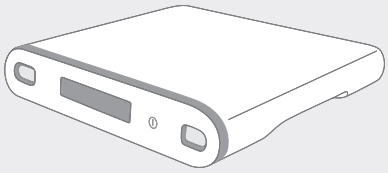
Plates, Meshes, Foils and Membranes		
	■ Huge variety of different geometies, sizes and thicknesses	■ Right implant for every indication
	■ Round edge geometry	■ Minimal palpability and susceptibility
	■ Can easily be contoured in the Xcelsior water bath and cut with scissors intraoperatively	■ Easy adaption to patient-specific anatomy
 	■ Flexible meshes	■ Very easy to adapt to patient specific anatomy
	■ Membranes and foils with minimal thickness (0.1, 0.2 or 0.3 mm)	■ Ideal for preprosthetic augmentation
	■ All Resorb x and Resorb xG implants fit both SonicPin diameters (1.6 and 2.1 mm)	■ Complete cross compatibility
	■ Sterile delivery	■ Always ready to use

Feature, Function and Benefit

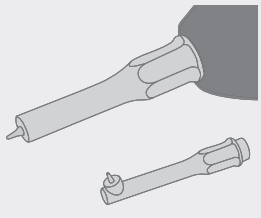
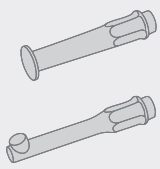
The ultrasonic unit of the SonicWeld Rx® system converts electric energy into mechanical vibrations (ultrasound).

When using a standard sonotrode, the ultrasonic energy causes a phase change of the resorbable material at the interfaces between the bone and the SonicPins Rx® via friction. Thus the SonicPin Rx® glides into the predrilled hole. When using a smoothing sonotrode, the ultrasonic energy allows to smooth the resorbable implants (e. g. a membrane).

SonicWeld Rx®

Ultrasonic unit	Feature and Function	Benefit
	■ Simple and elegant design	■ Clear optical distinction to first generation device
	■ Round edge geometry	■ Easy to clean
	■ Two handles to carry the device	■ Secure fit of the device during transportation
	■ Two connecting sockets for handpieces	■ Possibility to work alternatingly with two sonotrodes (e.g. a standard and a smoothing sonotrode
	■ One pre-defined power level	■ Optimal system setting ■ User-friendly application
	■ Opportunity to choose the individual system language	■ No comprehensive problems

Handpiece		
	■ Ergonomically designed handpiece	■ Well balanced and comfortable fit
	■ Finger activation	■ Exclusive concentration on the hand during SonicPin Rx® insertion or smoothing
	■ Light and acoustic support during activation	■ 1:1 feedback during activation period
	■ Autoclavable	■ Guaranteed biocompatibility for 250 sterilization cycles

Sonotrodes		
	■ Standard sonotrodes	
	■ straight	■ Ideal for SonicPin Rx® insertion in straight position
	■ angled	■ Ideal for SonicPin Rx® insertion in angled position (e. g. orbita or side tooth area)
	■ Smoothing sonotrodes	
	■ straight	■ Smoothing of implants in straight position
	■ angled	■ Smoothing of implants in straight or angled position (e. g. orbita or side tooth area)

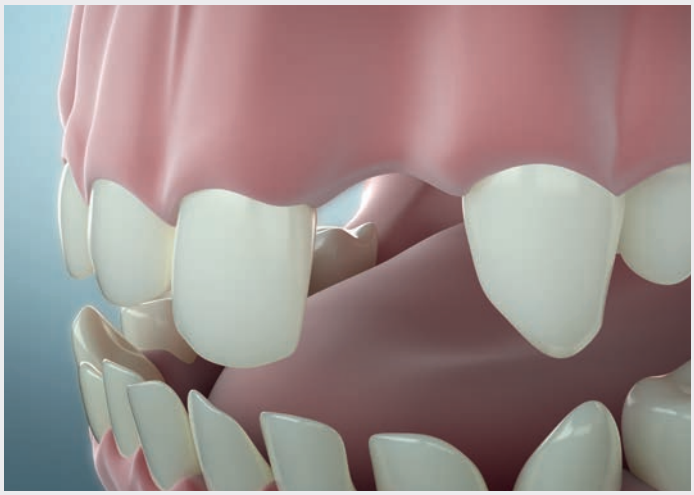
Step by Step to Optimal Care

Indications

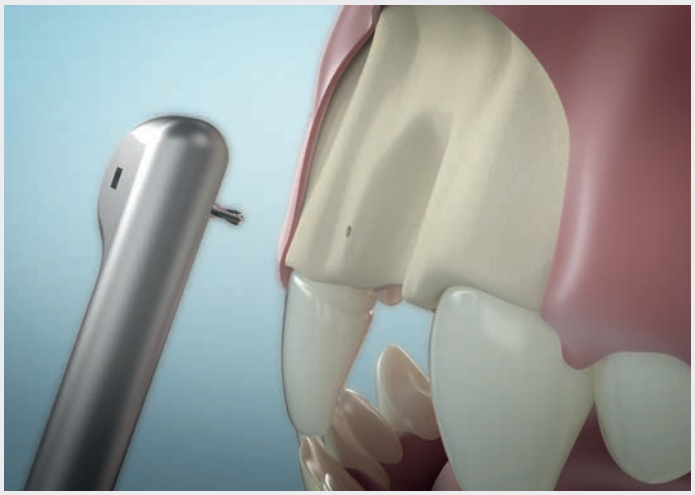
Preprosthetic augmentation

Surgical Techniques

Preprosthetic augmentation with the alveolar protector from the KLS Martin Group is ideal for treating small single-tooth defects. With its convex finger nail design, it recreates the alveolar process perfectly, thus allowing excellent regeneration of the natural structure. The patient benefits couldn't be more obvious, esthetically as well as functionally.

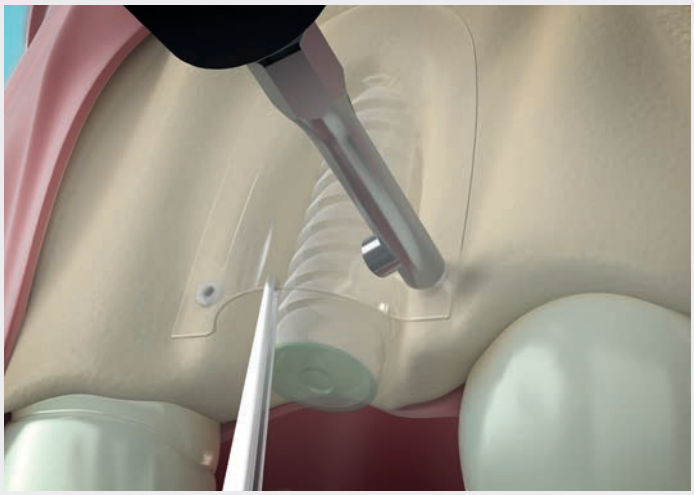


Thin-type soft tissue may need to be augmented preoperatively. A crestal incision pattern is recommended, with vertical incisions only in the anterior region to maintain blood supply to the wound.

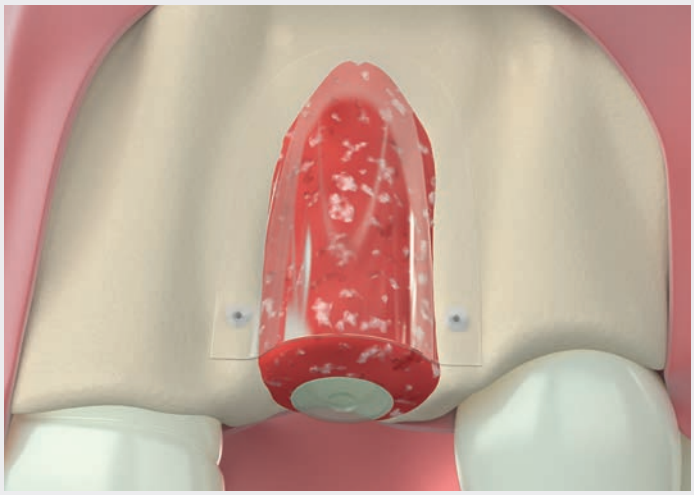


Predrill holes close to the defect.

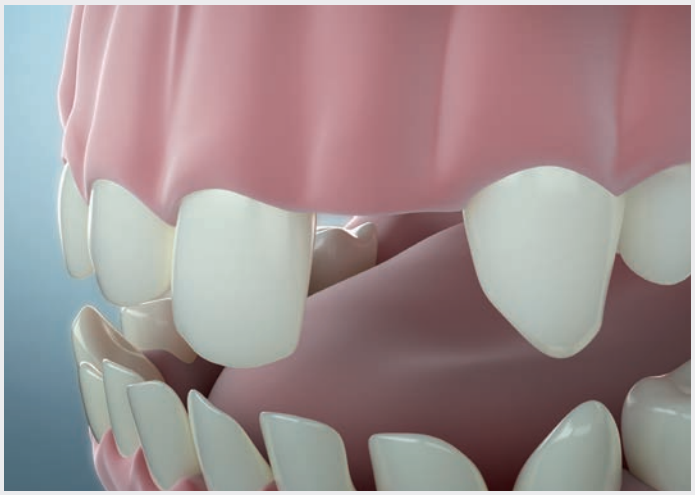
Insert SonicPins Rx® into the holes.



Place the Resorb x alveolar protector on the SonicPins Rx® and weld them together. Uneven edges can be welded and smoothed with the flat surfaces of the sonotrode.

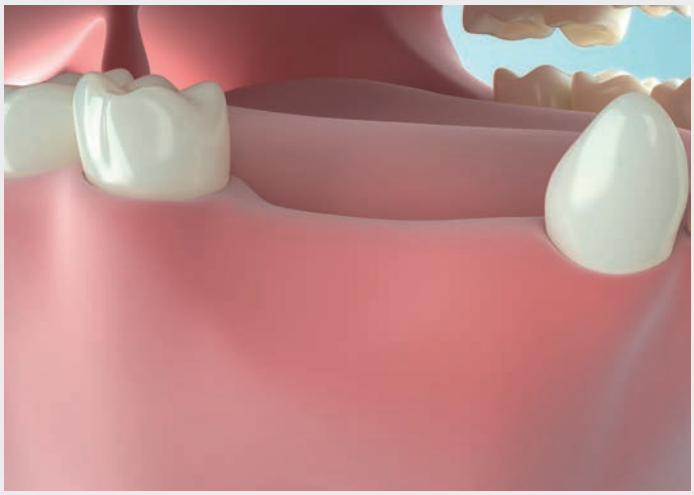


After smoothing the edges, fill the resulting pocket with bone material. Do not close the graft flush but in a dome shape. Then cover the ridge with a collagen barrier.



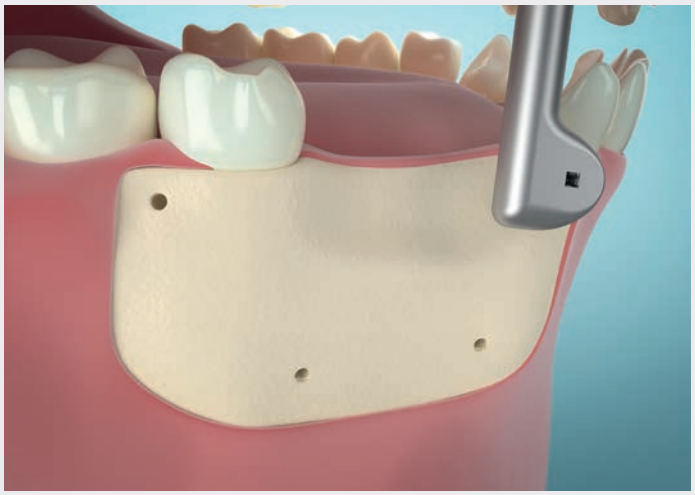
The flap edges must join together without tension and without suture tightness. Two levels of suturing are recommended – a deep mattress suture to prevent most movement in the augmentation zone, followed by suturing of the flap margins. Critical primary healing is supported by the diffusible collagen membrane, which covers the graft and acts as an additional protective barrier beneath the incision.

In the case of horizontal defects, the proven shell technique in conjunction with a single Resorb x foil or Resorb x membrane is recommended.

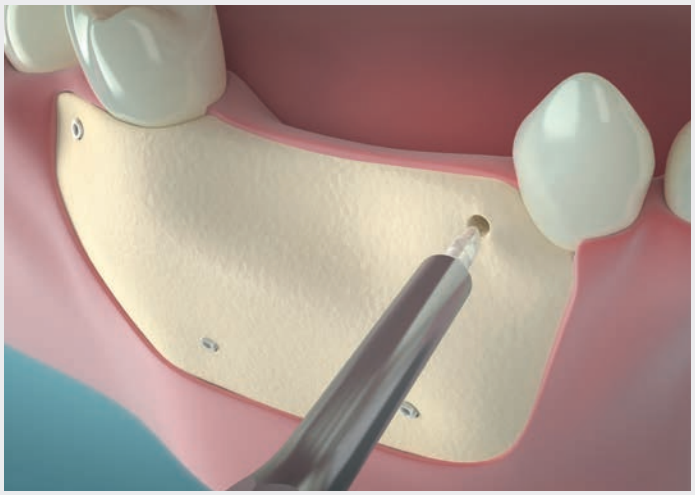


Leading clinicians recommend preliminary augmentation of soft tissue in extensive bone augmentation procedures if the soft tissue is not of a thick, healthy biotype.

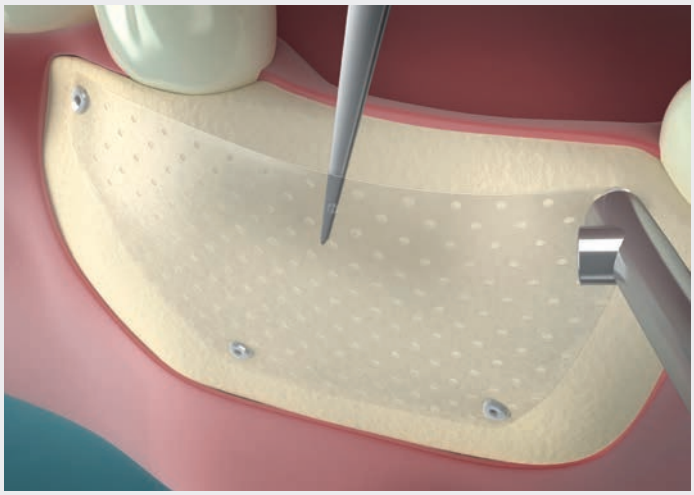
Select a suitable Resorb x film or Resorb x membrane for this purpose. The 50 × 20 mm size is ideal for extensive defects, as shown in the following example.



Predrill holes.

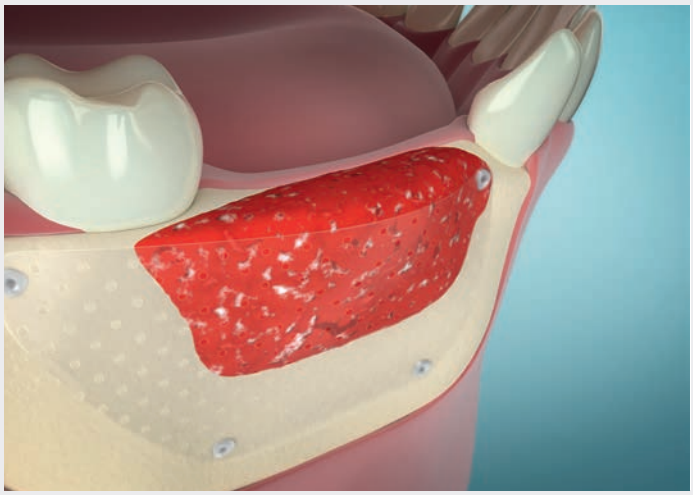


Place SonicPins Rx® into the holes.
Four to five SonicPins Rx® are usually quite sufficient – one on each crestal side and at least two apically with one on each side of the defect.



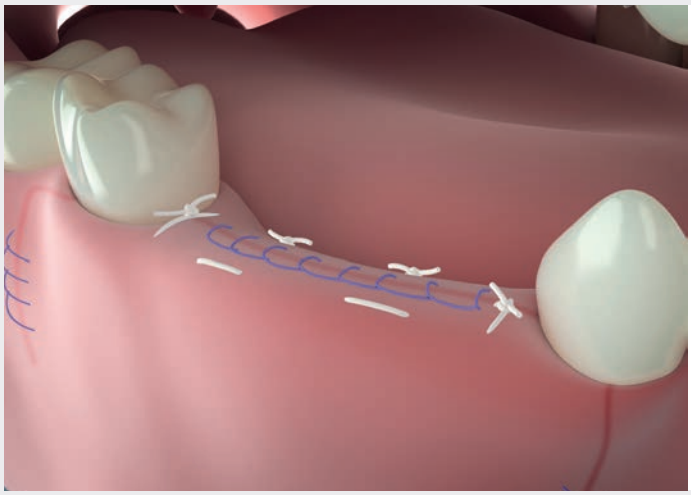
Place the Resorb x foil or membrane on the SonicPins Rx® and weld them together. Uneven edges can be welded and smoothed with the flat surfaces of the sonotrode.

The greatest gain in volume can be achieved by first attaching one side and then holding the foil or membrane in a convex fashion with an instrument while welding it to the reciprocal apical pin.



After smoothing the edges, fill the resulting cavity with bone material in a dome shape and cover the ridge with a collagen barrier.

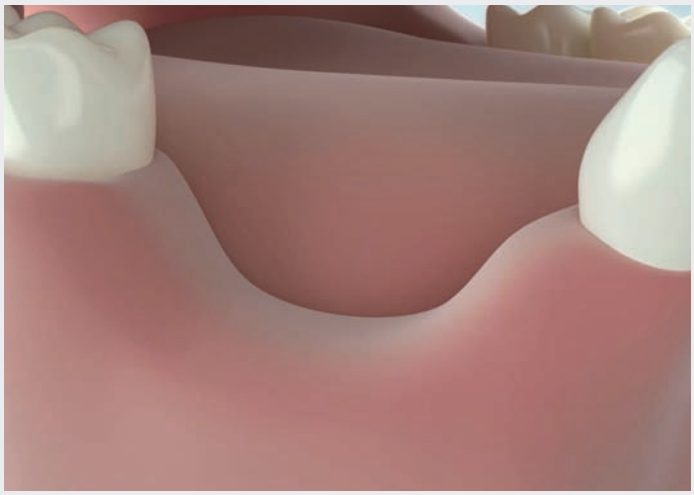
Alternatively, the abutments for a denture can also be inserted directly.



The flap edges must join together without tension and without suture tightness. After extensive preparation to detach the tissue, two levels of suturing are recommended – a deep mattress suture to prevent most movement in the augmentation zone, followed by suturing of the flap margins.

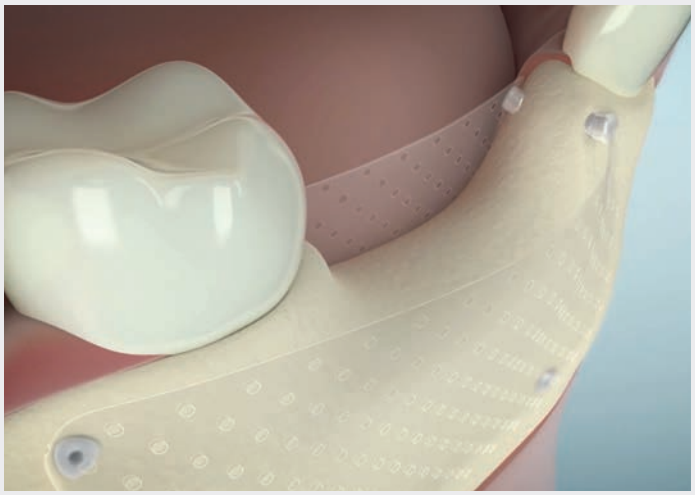
The augmentative correction of larger defects characterized by horizontal and vertical bone loss presents a challenge. To achieve controlled bone augmentation in such cases, forming of a four-walled cavity using two Resorb x foils or Resorb x membranes is recommended. The wall offers a number of advantages: comfortable and at the same time safe insertion of the particulated bone, a good blood supply to the wound, and safety in the event of crestal wound complications.

The protocol for this procedure was developed by Dr. Gerhard Iglhaut and has proven itself in the hands of numerous clinicians since 2009.

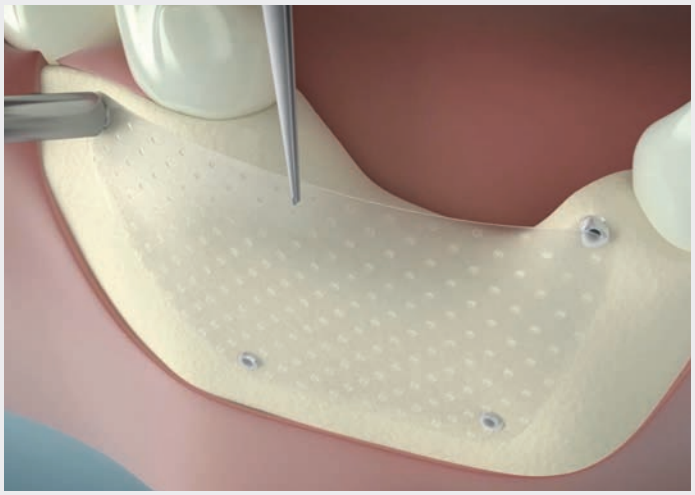


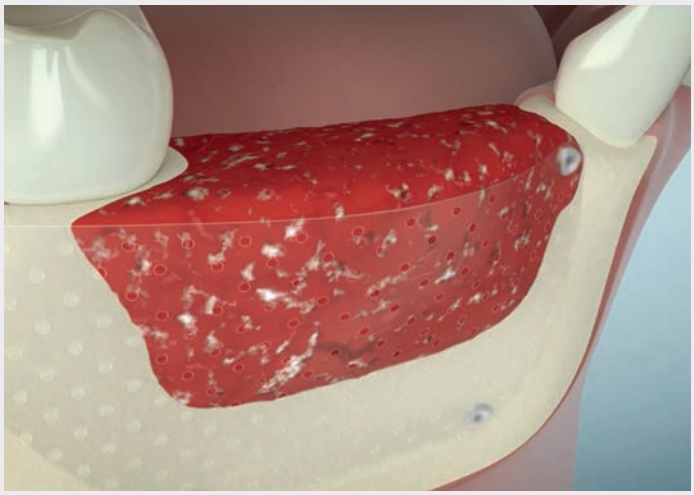
If necessary, thin soft tissue must be augmented in a first step. The incision should be performed along the ridge, vertically only in the anterior region.

Insert four SonicPins Rx® buccally around the defect and weld on the buccal Resorb x foil or Resorb x membrane.



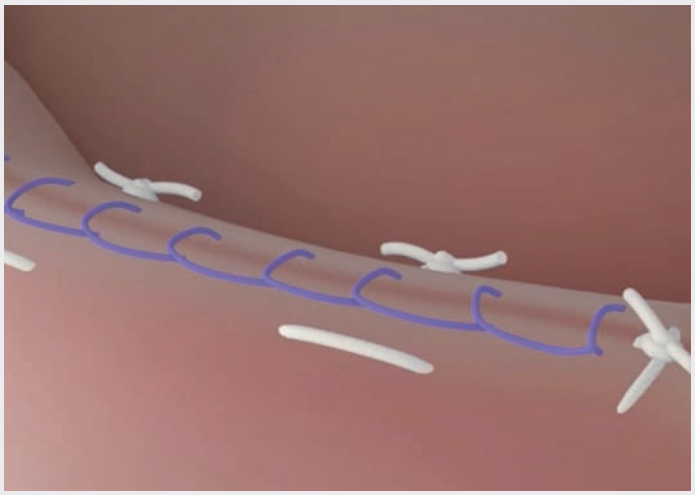
Then attach another foil or membrane to two crestal SonicPins Rx®.



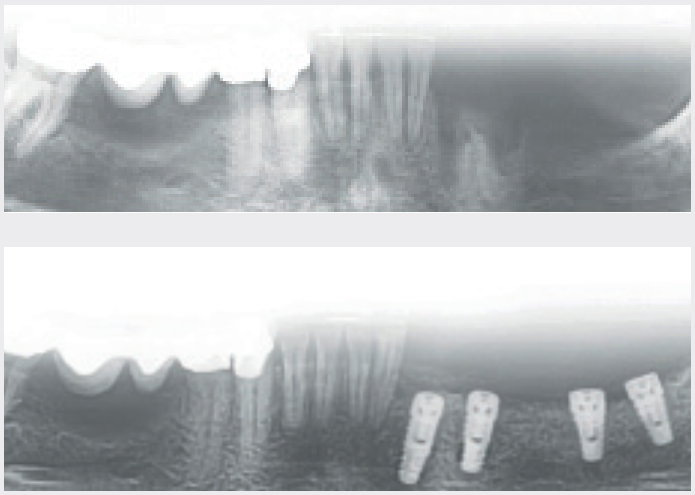


Completely fill the resulting cavity with particulated bone.

Cover the graft with a collagen barrier.
The barrier serves as a buffer for the structure and as a protective barrier under the wound.



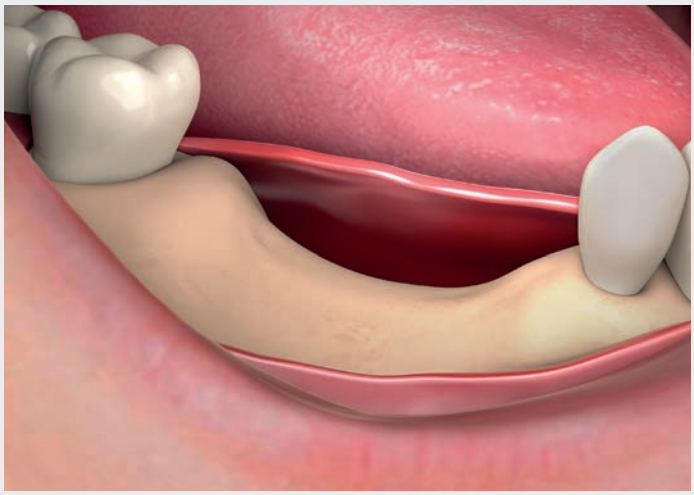
Ensure absolutely tension-free wound closure, beginning with a deep mattress suture to immobilize the tissue. Good primary healing is crucial for successful augmentation.



As shown in the photo, excellent results can be achieved with the shell technique.

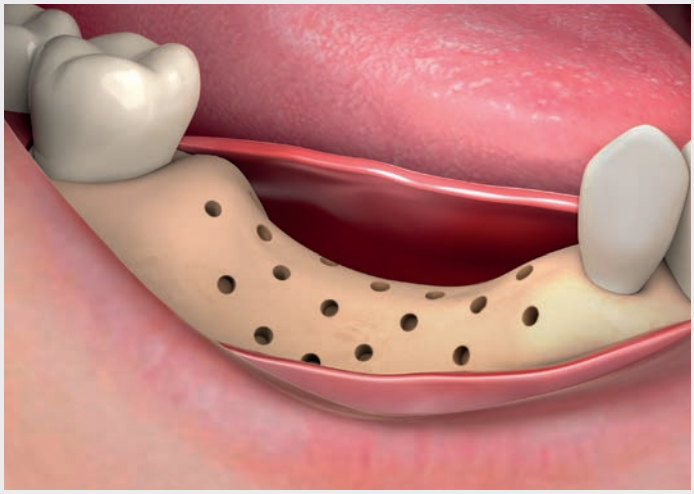
The frame technique utilizes the thermoplastic properties of the Resorb x polymer to create customized solutions with the aid of a metal template.

This technique is particularly effective for vertical augmentation in cases where ideal soft tissue and wound closure conditions are present, i.e., where primary healing is unproblematic.

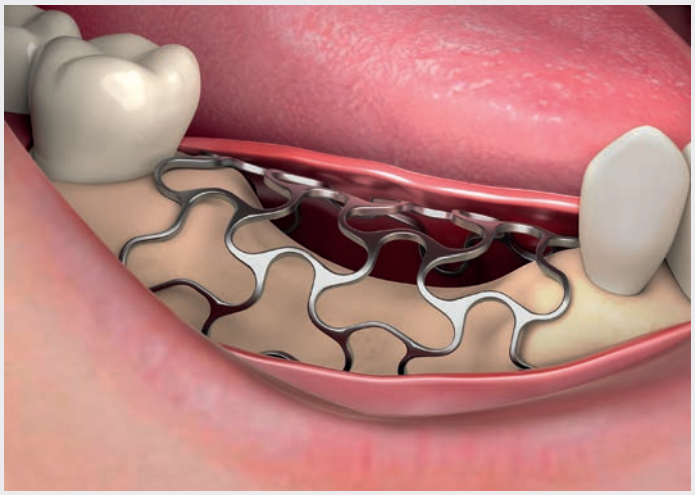


The frame technique is best suited for vertical defects in the presence of healthy soft tissue of optimal thickness. However, it is essential to ensure absolutely tension-free wound closure and good primary healing.

Not visible on the photo due to soft tissue: insertion of SonicPins Rx® on both the buccal and lingual margins of the defect, matched to the size of the Resorb x foil or Resorb x membrane.

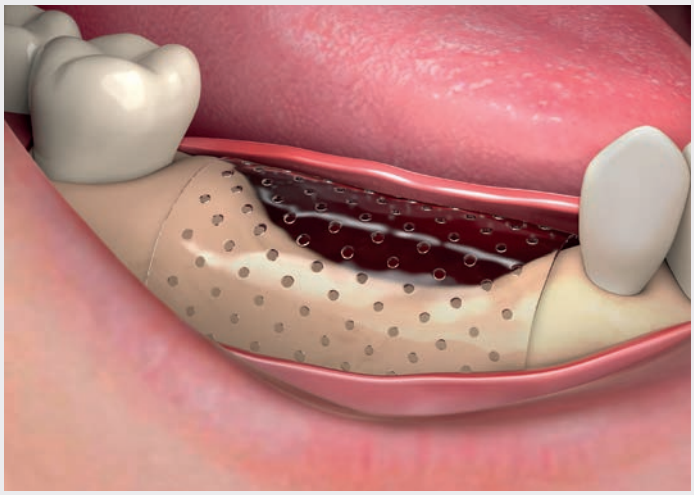


Alternatively, multiple drill holes can be placed in the bone to achieve better vascularization of the bone and bone graft substitute material.

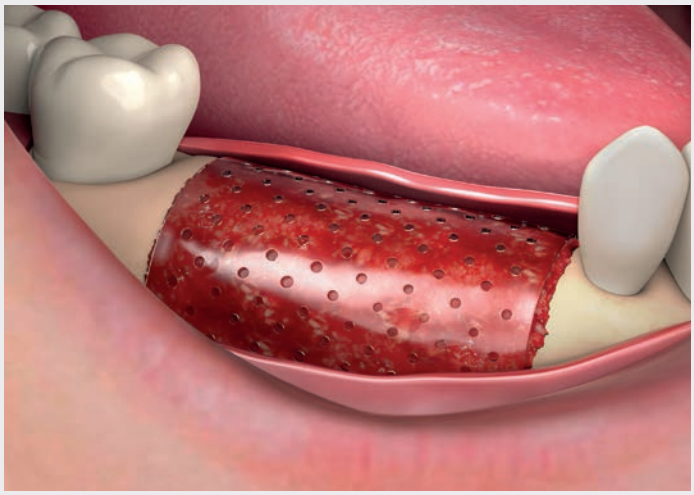


Creating a three-dimensional frame. For this purpose, a template is first created over the defect in the desired shape.

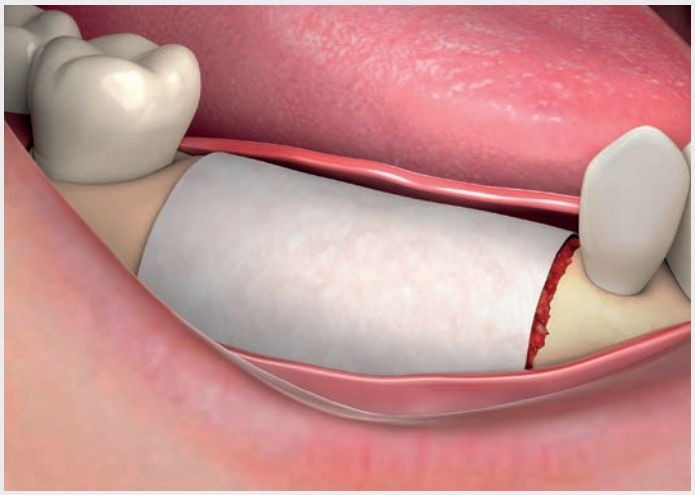
A Resorb x foil or membrane is then placed over or inside the frame, which is then immersed in sterile warm water for a few seconds. This heating causes the film or membrane to adapt to the frame and after removal from the water bath it cools rapidly and regains its rigidity while retaining the desired shape.



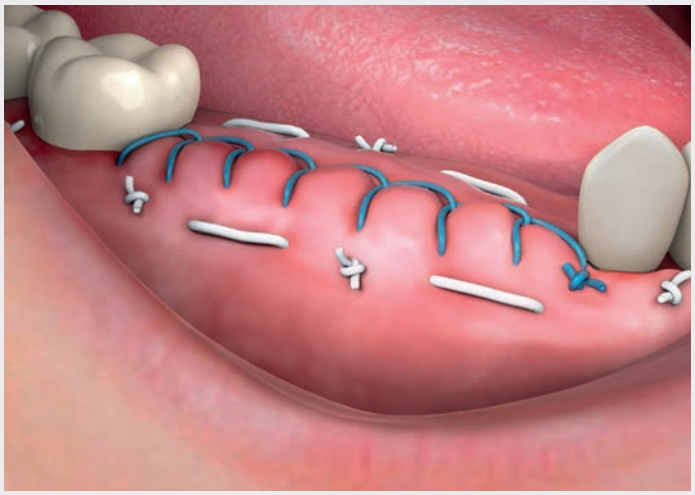
Not visible on the photo due to soft tissue: the Resorb x foil or membrane is then welded on with the smoothing sonotrode on one side.



The Resorb x foil or membrane is lifted carefully to allow the cavity that has been created to be completely filled with particulated bone. The foil or membrane is then welded to the remaining SonicPins Rx®.



Cover the ridge with a collagen membrane.



Prior to crestal suture closure, a deep mattress suture is applied, usually to the lingual periosteum using the split-flap technique.

Undisturbed healing of the soft tissue in large augmentations depends on adequate soft tissue grafting, tension-free wound closure, and good postoperative care.

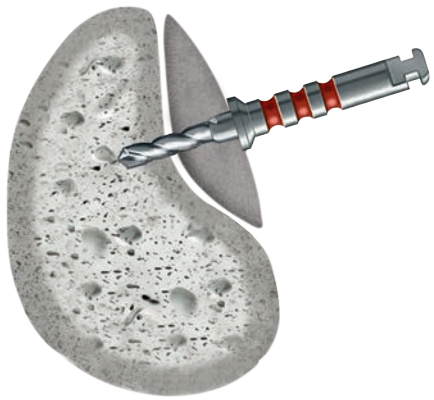
Alternatively, the abutments for a denture can also be inserted directly.

By using special long SonicPins Rx® (up to 17 mm) it is possible to weld a bone transplant in situ.

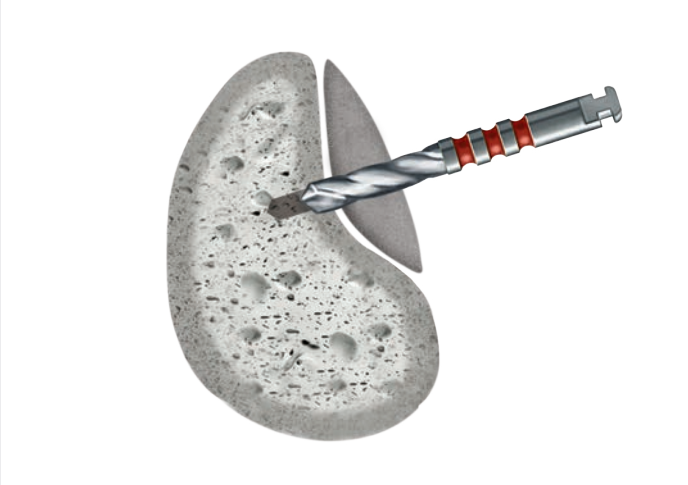
This technique is often used for onlay grafts in the mandible and/or the fixation of fractures in the condyle.

Benefits

- A second procedure is not required because the augmentation pin is resorbed completely and no metal parts need to be removed.
- Excellent stability equivalent or superior to fixation with titanium screws.
- Even very reduced anchorage depths are sufficient for stable pin fixation.
- Only one surgical procedure is required in the case of resorbable materials, which minimizes soft tissue trauma.



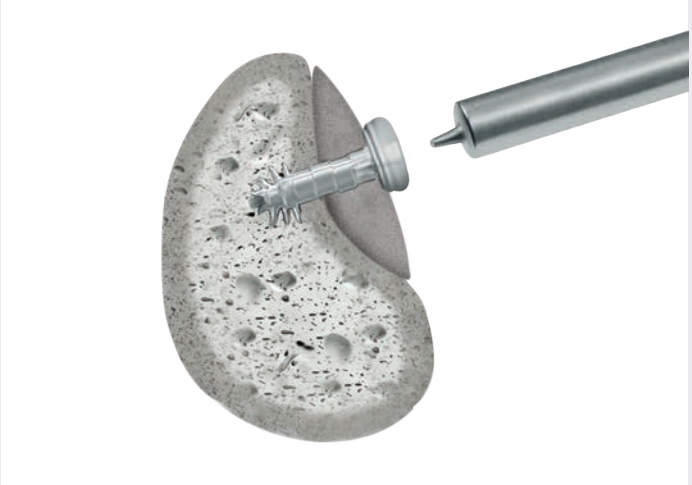
First, a normal SonicWeld-Rx® core hole is created in the distal bone base.
(Ø 1.6 mm for SonicPins Rx® with Ø 2.1 mm)



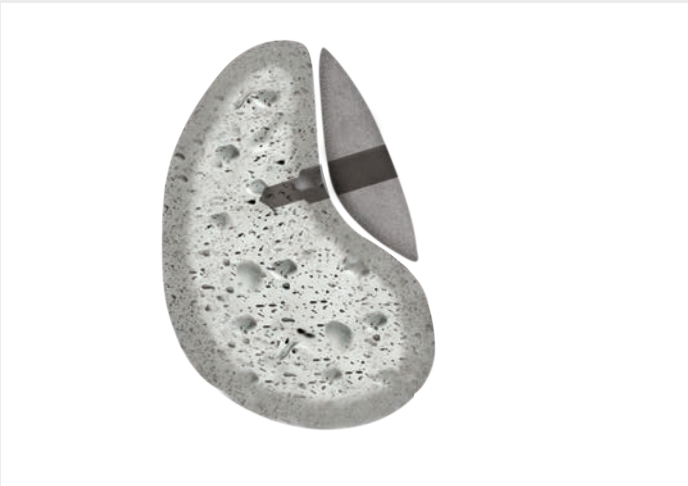
A sliding hole (Ø 2.1 mm) is then prepared exclusively in the proximal bone graft.

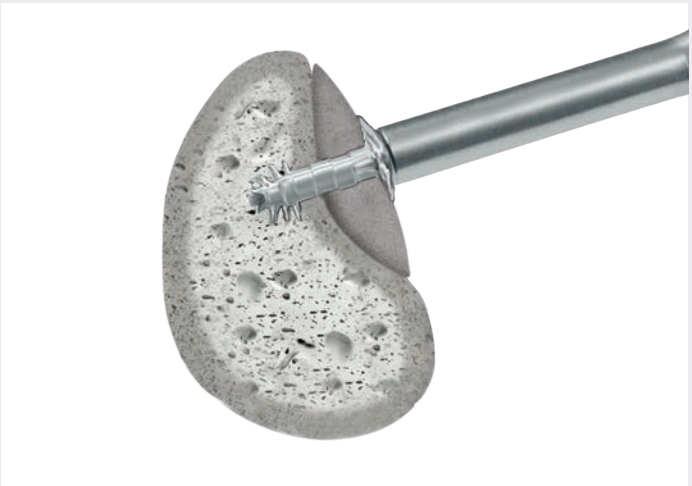
The sliding hole drill is placed over the first hole and stopped before the point at which the welding process is to start.

There are now two hole diameters: the smaller one in which the SonicPin Rx® will flow into the bone, and the larger one in which the SonicPin Rx® will remain fixed.



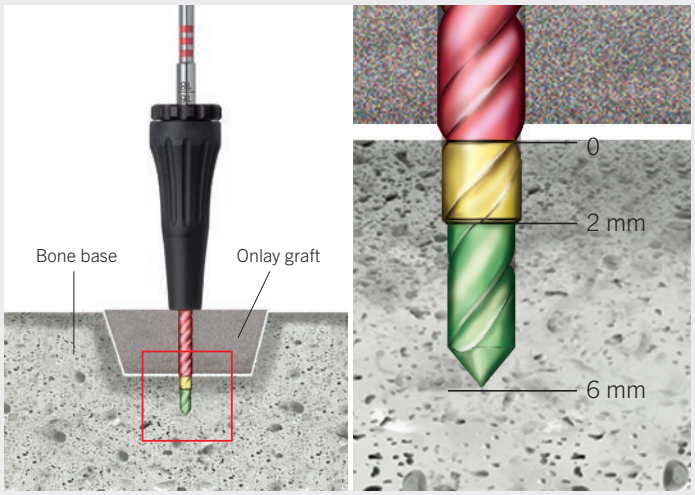
The SonicPin Rx® is inserted into the bone transplant and then welded to the base. As soon as the head of the SonicPin Rx® makes contact with the proximal bone at the end of the insertion process, the block is carefully tightened and securely fixed.

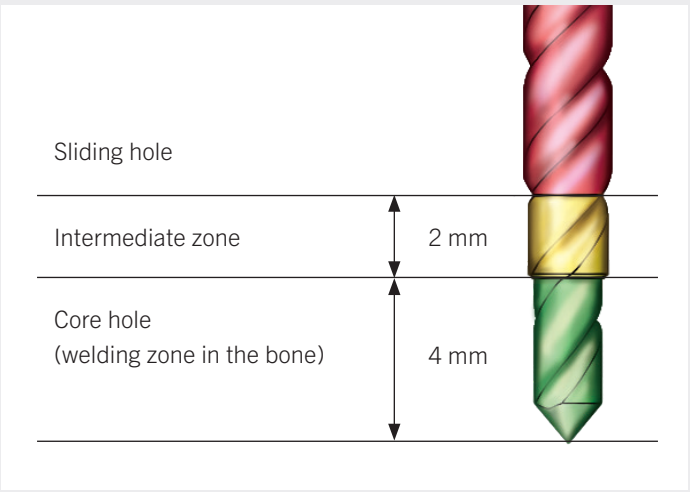




Alternatively, this technique can also be performed with special step drills with additional adjustment sleeves (three different drill geometries in one drill).

The segmented step drill integrates the different diameters of the core hole and sliding hole into a single tool. It is used for longer SonicPins Rx® with a diameter of 2.1 mm. This drill allows the surgeon to drill without having to change the twist drill. The adjustment sleeve allows easy definition of the desired working length.





The length of SonicPin Rx® plus 1 mm is used to set up the drill.

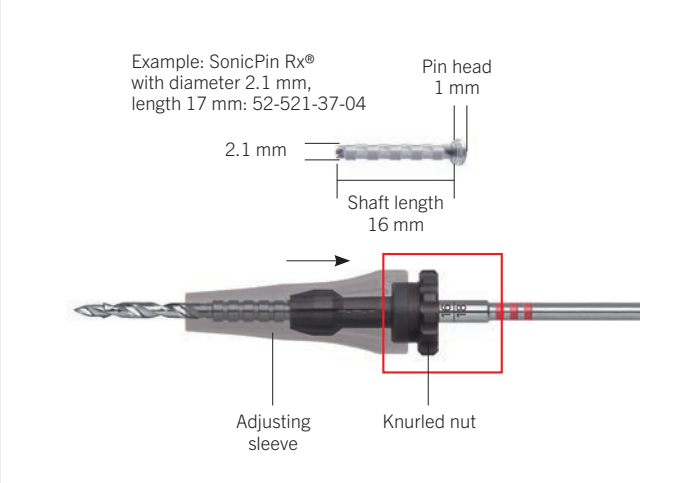
For example, the 17-mm SonicPin Rx® will travel 18 mm into the bone, and therefore the drill needs to be adjusted to a depth of 18 mm. Of this length, 6 mm is located in the bone base, 12 mm on the onlay graft.

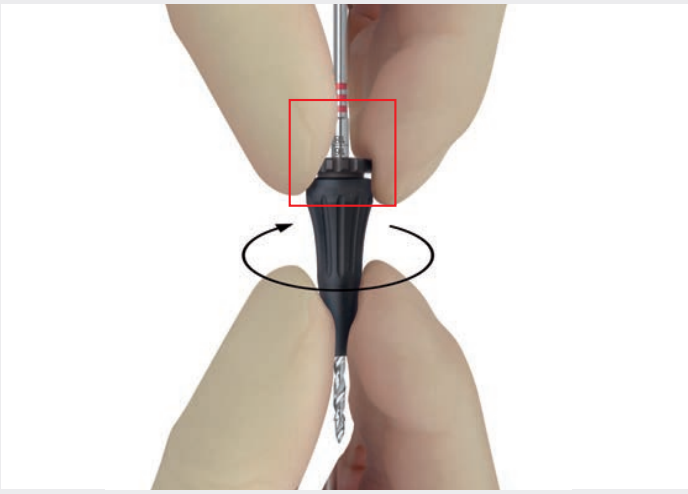
Release the adjustable sleeve by turning the opposite parts. Push the sleeve until “18” is visible on the shaft. Retighten the sleeve by screwing the parts back together again.

Pre-drill to the stop using the segmented twist drill. After drilling, rinse off any burr residue.
2 mm intermediate zone
4 mm welding zone

Insert the SonicPin Rx® until you feel the resistance of the drill hole in the intermediate zone. The sonotrode is not yet activated.

Apply slight pressure along the angle of the drilled hole and activate the sonotrode to weld in the SonicPin Rx®. Wait at least 5 seconds to allow the pin to fasten.

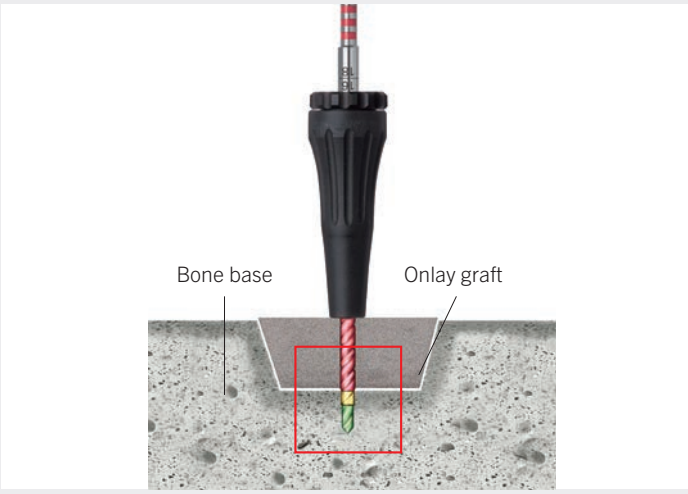




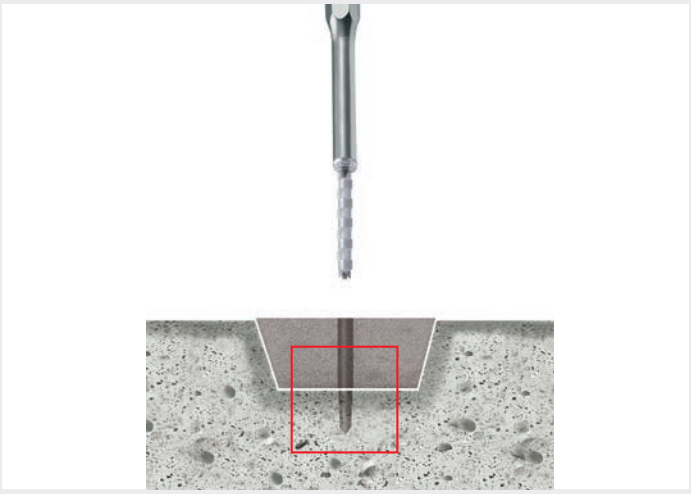
The length of SonicPin Rx® plus 1 mm is used to set up the drill.

For example, the 17-mm SonicPin Rx® will travel 18 mm into the bone, and therefore the drill needs to be adjusted to a depth of 18 mm. Of this length, 6 mm is located in the bone base, 12 mm on the onlay graft.

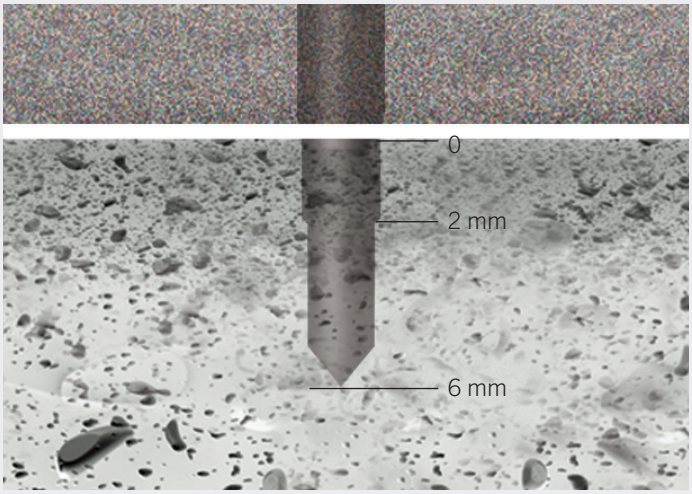
Release the adjustable sleeve by turning the opposite parts. Push the sleeve until “18” is visible on the shaft. Retighten the sleeve by screwing the parts back together again.



Pre-drill to the stop using the segmented twist drill. After drilling, rinse off any residues.

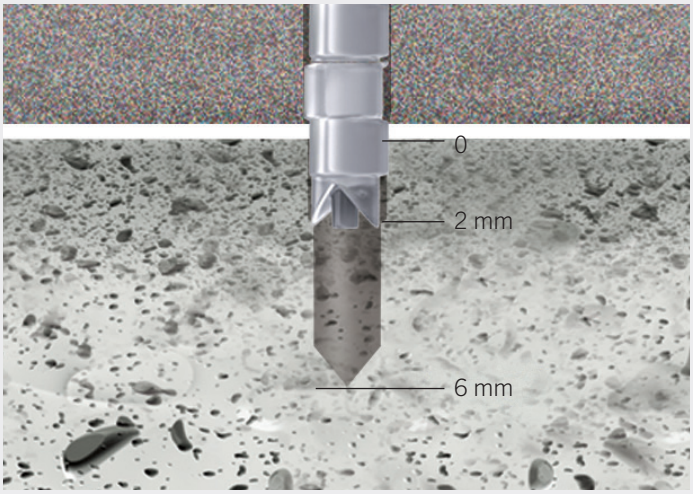


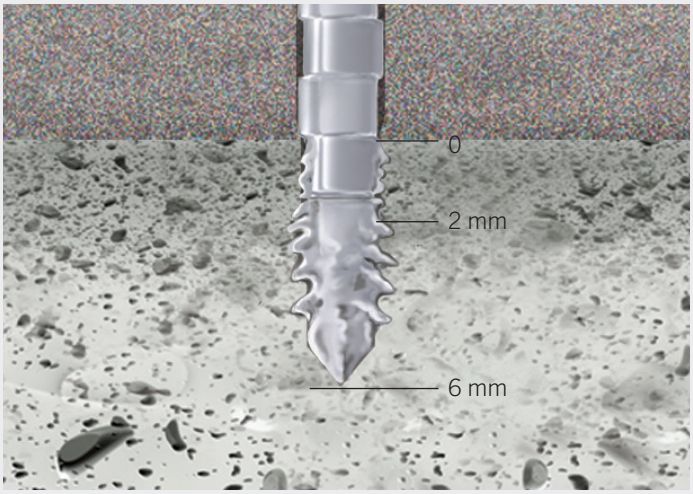
2 mm intermediate zone
4 mm welding zone



Insert the SonicPin Rx® until you feel the resistance of the drill hole in the intermediate zone. The sonotrode is not yet activated.

Apply slight pressure along the angle of the drilled hole and activate the sonotrode to weld in the SonicPin Rx®. Wait at least 5 seconds to allow the pin to fasten.

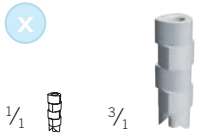




SonicWeld Rx® Dental
Implants

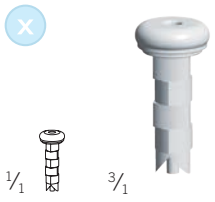
SonicPins Rx®

Micro SonicPin Rx®, 1.6 mm



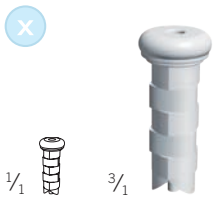
Pin length	Item no.	Item no.
5 mm	52-519-25-04 ❷	52-519-45-04 ❹

SonicPin Rx®, 1.6 mm



Pin length	Item no.	Item no.
4 mm	52-516-24-04 ❷	52-516-54-04 ❺

SonicPin Rx®, 2.0 mm



Pin length	Item no.
7 mm	52-521-27-04 ❷
9 mm	52-521-29-04 ❷
11 mm	52-521-31-04 ❷
13 mm*	52-521-33-04 ❷
15 mm*	52-521-35-04 ❷
17 mm*	52-521-37-04 ❷

* specifically for onlay graft fixation with sliding hole and/or step drill principle

Alveolar protector

52-301-07-04 ❶

Resorb x Alveolar Protector

= 0.1 mm

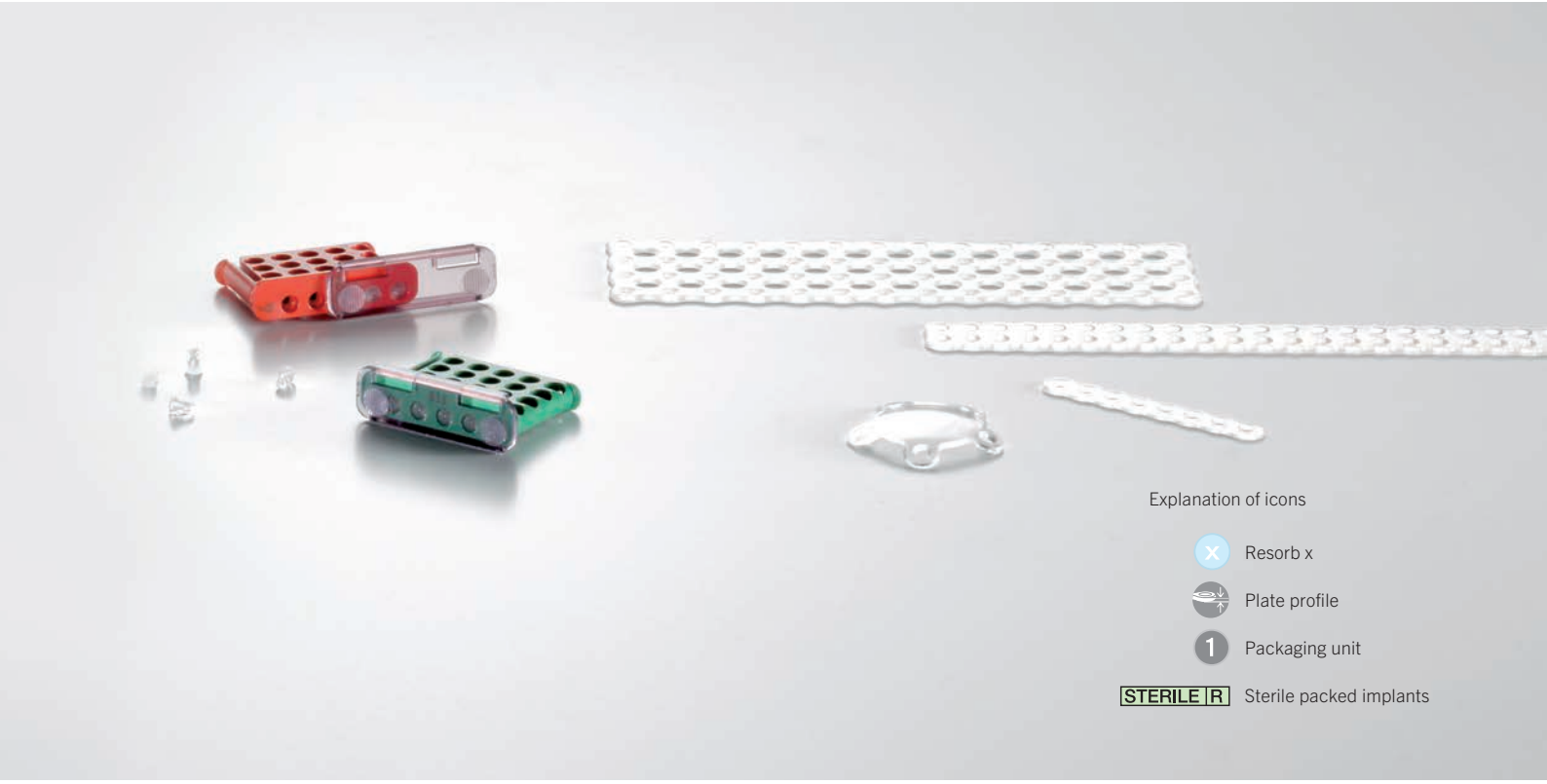
52-301-00-04 ❶

Resorb x Alveolar Protector Plus

consisting of

52-301-07-04 ❶
Resorb x Alveolar Protector

52-519-25-04 ❷
Micro SonicPin Rx® 1.6 x 5 mm



Explanation of icons

- Resorb x
- Plate profile
- 1 Packaging unit
- STERILE R Sterile packed implants

Foil, meshes, membranes

1/1

52-301-28-04 x 1

25 × 25 mm

= 0.1 mm

1/1

52-301-38-04 x 1

25 × 25 mm

= 0.1 mm

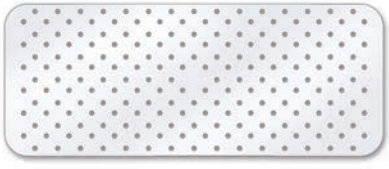
1/1

52-301-20-04 x 1

50 × 20 mm

= 0.1 mm

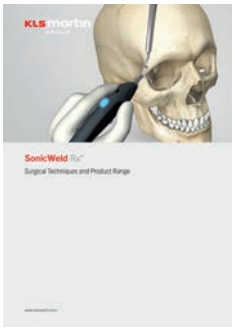
1/1



52-302-30-04 x 1

50 × 20 mm

= 0.2 mm



For further information and additional products, please refer to the brochure “SonicWeld Rx® – Surgical Techniques and Product Range”.

SonicWeld Rx® Dental
Devices and Instruments

SonicWeld-Rx® Ultrasonic device

52-500-20-04	**SonicWeld Rx® basic set consisting of:**
52-500-21-04	Ultrasonic unit SonicWeld Rx®
52-500-23-04	Handpiece with finger activation
52-501-21-04	Standard sonotrode, straight
52-502-01-04	Wrench for sonotrodes

Xcelsior water bath

52-400-10-04 (1)

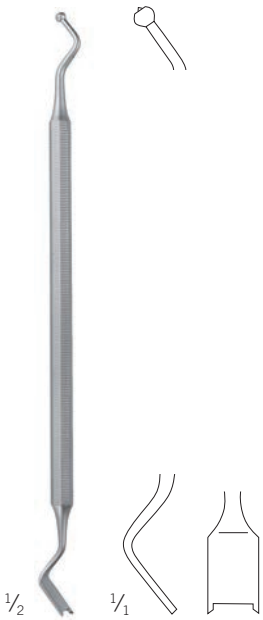
Xcelsior water bath
complete

Explanation of icons

St Stainless steel

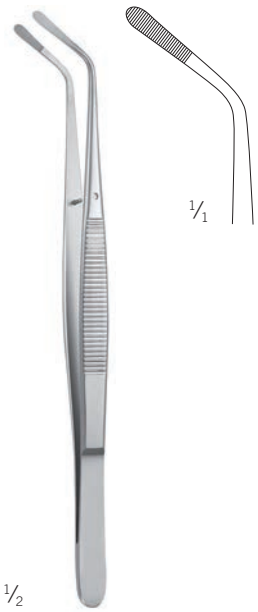
1 Packaging unit

Instruments



52-201-01-07 St 1

Plate-holding instrument

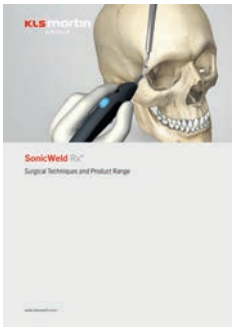


52-201-02-07 St 1

Plate-holding forceps, curved

11-180-15-07 St 1

Scissors



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SonicWeld Rx® Dental
Devices and Instruments

50-800-03-07 1

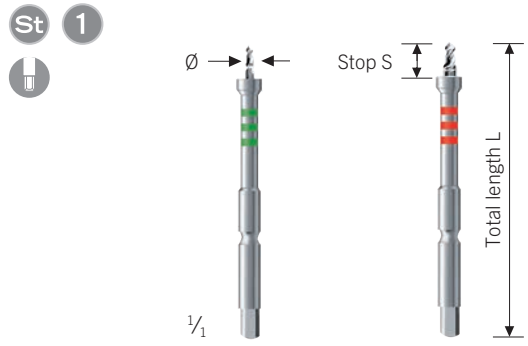
BOS Drill without battery pack

50-800-02-71 1

Battery pack, sterile

Explanation of icons

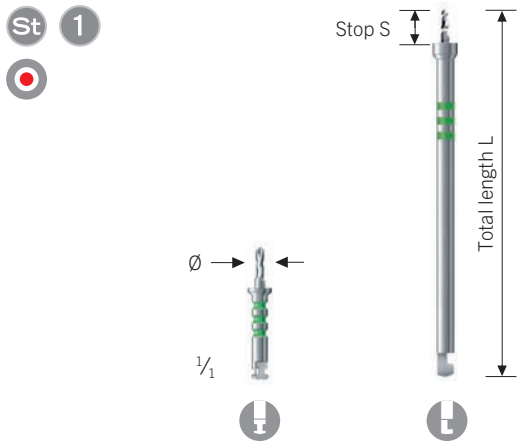
- St — Stainless steel
- for BOS Drill
- 1 — Packaging unit
- STERILE R — Sterile packed implants



SonicPins Rx®	S	L	Ø	Unsterile	STERILE R
Ø 1.6 mm					
Core hole	3 mm	40 mm	1.0 mm	52-610-03-07	
Core hole	4 mm	40 mm	1.0 mm	52-610-04-07	52-610-04-71
Core hole	5 mm	40 mm	1.0 mm	52-610-05-07	
Core hole	8 mm	40 mm	1.0 mm	52-610-08-07	
Ø 2.1 mm					
Core hole	3 mm	40 mm	1.6 mm	52-616-03-07	
Core hole	4 mm	40 mm	1.6 mm	52-616-04-07	52-616-04-71
Core hole	5 mm	40 mm	1.6 mm	52-616-05-07	
Core hole	10 mm	40 mm	1.6 mm	52-616-10-07	

SonicWeld Rx® Dental
Twist Drills

Twist drill for SonicPins Rx® Ø 1.6 mm

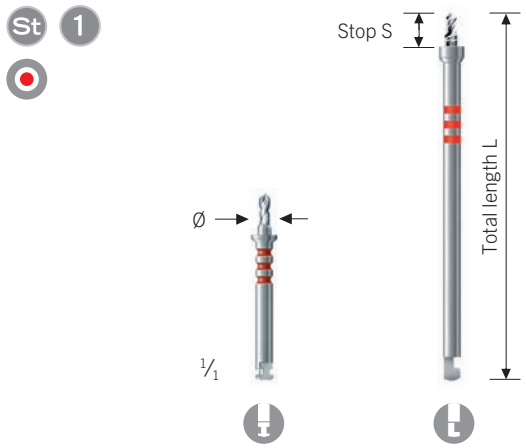


SonicPins Rx®	S	L	Ø	Unsterile	STERILE R
Dental attachment					
Core hole	5 mm	20.0 mm	1.0 mm	52-509-05-07	52-509-05-71
Core hole	5 mm	29.5 mm	1.0 mm	52-512-05-07	
Core hole	6 mm	20.0 mm	1.0 mm	52-509-06-07	52-509-06-71
Core hole	6 mm	39.5 mm	1.0 mm	52-512-06-07	
J-notch attachment					
Core hole	3 mm	50.0 mm	1.0 mm	52-510-03-07	
Core hole	4 mm	50.0 mm	1.0 mm	52-510-04-07	52-510-04-71
Core hole	5 mm	50.0 mm	1.0 mm	52-510-05-07	52-510-05-71
Core hole	6 mm	50.0 mm	1.0 mm	52-510-06-07	
Core hole	7 mm	50.0 mm	1.0 mm	52-510-07-07	52-510-07-71
Core hole	8 mm	50.0 mm	1.0 mm	52-510-08-07	

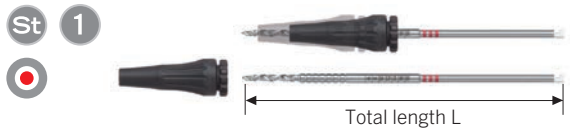
Explanation of icons

- St — Stainless steel
- J-notch attachment
- Dental attachment
- 1 — Packaging unit
- STERILE R — Sterile packed implants

Twist drill for SonicPins Rx® Ø 2.1 mm



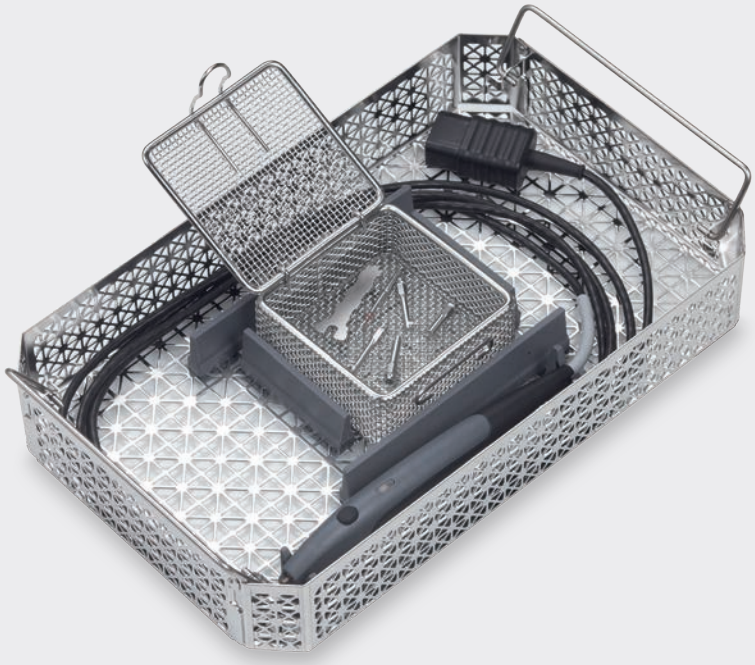
SonicPins Rx®	S	L	Ø	Unsterile	STERILE R
Dental attachment					
Core hole	4 mm	28.5 mm	1.6 mm	52-518-04-07	
Core hole	5 mm	20.0 mm	1.6 mm	52-515-05-07	52-515-05-71
Core hole	5 mm	29.5 mm	1.6 mm	52-518-05-07	
Core hole	6 mm	20.0 mm	1.6 mm	52-515-06-07	52-515-06-71
Core hole	6 mm	30.5 mm	1.6 mm	52-518-06-07	
Core hole	10 mm	24.5 mm	1.6 mm	52-515-10-07	
Core hole	10 mm	34.5 mm	1.6 mm	52-518-10-07	
Core hole	20 mm	34.5 mm	1.6 mm	52-515-20-07	
Core hole	20 mm	44.5 mm	1.6 mm	52-518-20-07	
Sliding hole	10 mm	22.0 mm	2.1 mm	52-522-10-07	
Sliding hole	10 mm	32.0 mm	2.1 mm	52-525-10-07	
J-notch attachment					
Core hole	3 mm	50.0 mm	1.6 mm	52-516-03-07	
Core hole	4 mm	50.0 mm	1.6 mm	52-516-04-07	52-516-04-71
Core hole	5 mm	50.0 mm	1.6 mm	52-516-05-07	52-516-05-71
Core hole	6 mm	50.0 mm	1.6 mm	52-516-06-07	
Core hole	8 mm	50.0 mm	1.6 mm	52-516-08-07	
Core hole	10 mm	50.0 mm	1.6 mm	52-516-10-07	
Sliding hole	35 mm	50.0 mm	1.6 mm	50-022-01-07	



SonicPins Rx®	L	Ø	Unsterile
Step drill	100 mm	1.6 mm	52-516-51-07
Step drill	75 mm	1.6 mm	52-516-52-07
Adjustment sleeve	100 mm		52-516-60-07

SonicWeld Rx® Dental
Storage

55-804-15-01		marTray mini-mesh tray incl. lid, 277 × 172 × 541 (L × W × H)
55-891-40-01		Small-parts tray, fine-mesh 80 × 80 × 40 mm
55-969-46-04		Small-parts storage
55-806-50-04	3×	Separator, 123 × 9 × 22 mm
55-806-33-04	2×	Shaft holder, 8–10 mm



SonicWeld Rx® Dental
References

Abdel-Galil, K. & Loukota, R.,
Fixation of comminuted diacapitular fractures of the mandibular condyle with ultrasound-activated resorbable pins.
Br J Oral Maxillofac Surg, 46(6), 2008,
S. 482-484

Basa, S.,
Does ultrasonic resorbable pin fixation offer predictable results for augmentation eminoplasty in recurrent dislocations?
J Oral Maxillofac Surg, 72(8), 2014,
S. 1468-1474

Buijs, G. J., et al.,
Mechanical strength and stiffness of the bio-degradable SonicWeld Rx® osteofixation system.
J Oral Maxillofac Surg, 67(4), 2009. S. 782-787

Burger B. W.,
Use of ultrasound-activated resorbable poly-D, L-lactide pins (SonicPins) and foil panels (Resorb x) for horizontal bone augmentation of the maxillary and mandibular alveolar ridges.
J Oral Maxillofac Surg, 68(7), 2010,
S. 1656-1661

Cho P. W. J., et al.,
Biomechanical study of SonicWeld Rx® pin in cortical bone graft layering technique.
J Oral Maxillofac Surg, 69(5), 2011,
S. 1519-1524
Heidemann W., et al.,
Degradation of poly(D,L)lactide implants with or without addition of calciumphosphates in vivo.
Biomaterials, 22(17), 2001, S. 2371-2381

Heidemann W. & Gerlach K. L.,
Sonographic examinations on the degradation of bioresorbable osteosynthesis materials.
Biomed Tech, 46(9), 2001, S. 236-240

Heidemann W, et al.,
In vivo investigation of the degradation of poly(D,L)lactide and poly(L-lactide-co-glycolide) osteosynthesis material.
Mund-, Kiefer- GesichtsChir, 7, 2003,
S. 283-288

Iglhaut, G.,
The Minimally Invasive Shell Technique for Bone Augmentation.
Oralchirurgie Journal, 9(3), 2009

Iglhaut, G., et al.,
Shell technique using a rigid resorbable barrier system for localized alveolar ridge augmentation.
Clin Oral Implants Res, 25(2), 2014,
S. 149 - 154

Mai, R.,
Bone welding – a histological evaluation in the jaw.
Ann Anat, 189(4), 2007, S. 350-355

Meara, D. J., et al.,
Fixation of Le Fort I osteotomies with poly-DL-lactic acid mesh and ultrasonic welding – a new technique.
J Oral Maxillofac Surg, 70(5), 2012, S. 1139-1144

Müller-Richter, U. D., et al.,
Treatment of intracapsular condylar fractures with resorbable pins.
J Oral Maxillofac Surg, 69(12), 2011,
S. 3019-3025

Pietrzak W.S.,
Bioabsorbable polymer applications in musculoskeletal fixation and healing.
In: Pietrzak W. S. (ed.), Orthopedic biology and medicine: Musculoskeletal tissue regeneration, biological materials and methods,
Totawa: Humana Press, 2008, S. 509-529

Pilling, E., et al.,
An experimental in vivo analysis of the resorption to ultrasound-activated pins (SonicWeld Rx®) and standard biodegradable screws (Resorb x) in sheep.
Br J Oral Maxillofac Surg, 45(6), 2007, S. 447-450

Schneider, M., et al.,
Stability of fixation of diacapitular fractures of the mandibular condylar process by ultrasound-aided resorbable pins (SonicWeld Rx® System) in pigs.
Br J Oral Maxillofac Surg, 49(4), S. 297-301

Schneider, M., et al.,
Ultrasound-aided resorbable osteosynthesis of fractures of the mandibular condylar base: an experimental study in sheep.
Br J Oral Maxillofac Surg, 50(6), 2012, S. 528-532

Völker, W., et al.,
The use of resorbable osteosynthesis materials.
Laryngorhinootologie. 90(1), 2011, S. 23-25

For further information and additional literature, please refer to the brochure “SonicWeld Rx® Basics”.

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