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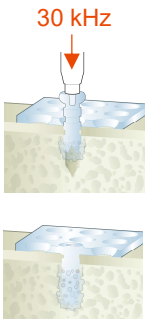
Resorb Pin and Plate System

Revolutionary technique for osteosynthesis

The Resorb pin and plate system combines highly advanced ultrasound technology with resorbable implants to provide extremely stable fixation and completely eliminate the need for a second operation.

BoneWelding® Fixation

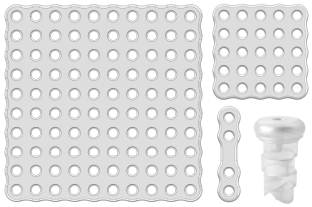


The BoneWelding® technology employs ultrasonic energy to liquefy the polymeric components of the Resorb pins at the interface with bone tissue. The liquid polymer flows into the marrow space of the surrounding cancellous bone where it is immediately quenched and provides a 3D anchorage of the implant. Thermal energy is only generated for about 1 second during the BoneWelding® process.

The thermal impact on the bone is minimal. The short ultrasonic impulse (1 second) and the localized liquefication of the polymer neither disturb bone healing nor osseointegration.

VetWelding® Resorb Pin and Plate System

The VetWelding Resorb pins and plates are made of 100% biocompatible and fully bioresorbable Poly-D,L-lactic Acid (PDLLA). The in vivo degradation of the pins and plates is based on the natural physiological process of hydrolysis, which results in a complete metabolization of the polymer into H2O and CO2.



For entire implant portfolio please refer to www.vetwelding.com

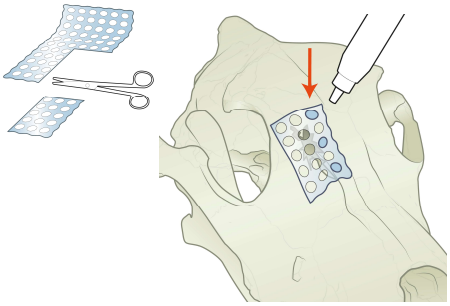
Pins and Plates

The pins are 2.1 mm in diameter and provided in lengths from 4 mm to 9 mm. Plates and meshes are provided in a huge variety of different shapes, sizes and thicknesses and can be easily contoured or cut with scissors intraoperatively. This ensures the right implant for every indication and easy adaption to patient specific anatomy.

Simple Procedure

The Resorb pin and plate system is implanted with a simple 3 step procedure:

1. Resorbable plates or meshes are heated up in a water bath & shaped to fit the application site
2. Holes are predrilled for the pins
3. Plates are fixed in place with Resorb pins
    - Sonotrode liquefies the pins
    - Pins bond with the plate or mesh
    - Polymer penetrates the bone cavities and anchor the implant securely



Indications

The Resorb pin and plate system is intended for surgical procedures in which an internal fixation by resorbable implants is required for aligning, reconstructing, and stabilizing bone tissue. It is indicated for use in non-loadbearing applications. Some of the many indications include:

- Treatment of maxillofacial fractures
- Laminoplasty
- Reconstruction of bone defects after cranial tumor resection
- Wound closure following equine tooth extraction for prevention of food contamination

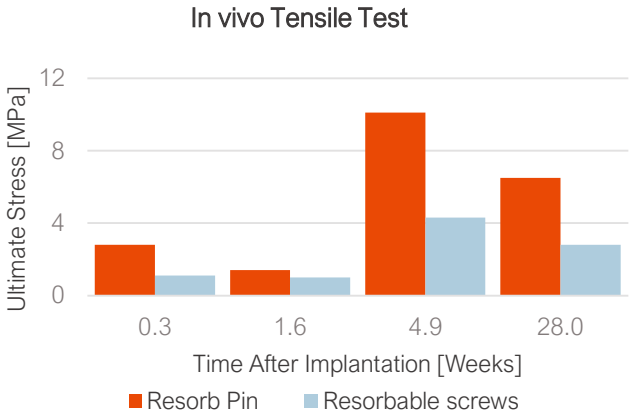
Clinical Benefits[1]

Reduced Operative Time

The eliminated need for pre-tapping and exceptionally fast implantation of the Resorb pins lead to a significant reduction in surgical time.

Biomechanical Benefits

Resorb pins can achieve twice the strength compared to resorbable screws.



VetWelding® Ultrasound System

BoneWelder® Vet

The ultrasonic energy for the implantation of the Resorb pin and plate is provided by the BoneWelder® Vet ultrasonic generator and applied via the attached handpiece.

Water Bath

The water bath can be used to warm the resorbable plates just before use. After only a few seconds the implant can be shaped, contoured and cut, allowing it to be easily adapted to the surface of the bone segments.

About VetWelding AG

VetWelding AG is a Swiss veterinary orthopedic company founded in 2017. We are dedicated to providing innovative implants and solutions for trauma and degenerative disorders in the animal musculo-skeletal system.

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[1]Pilling, E., et al. "An experimental study of the biomechanical stability of ultrasound-activated pinned (SonicWeld Rx®+ Resorb-X®) and screwed fixed (Resorb-X®) resorbable materials for osteosynthesis in the treatment of simulated craniosynostosis in sheep." British Journal of Oral and Maxillofacial Surgery 45.6 (2007): 451-456.