

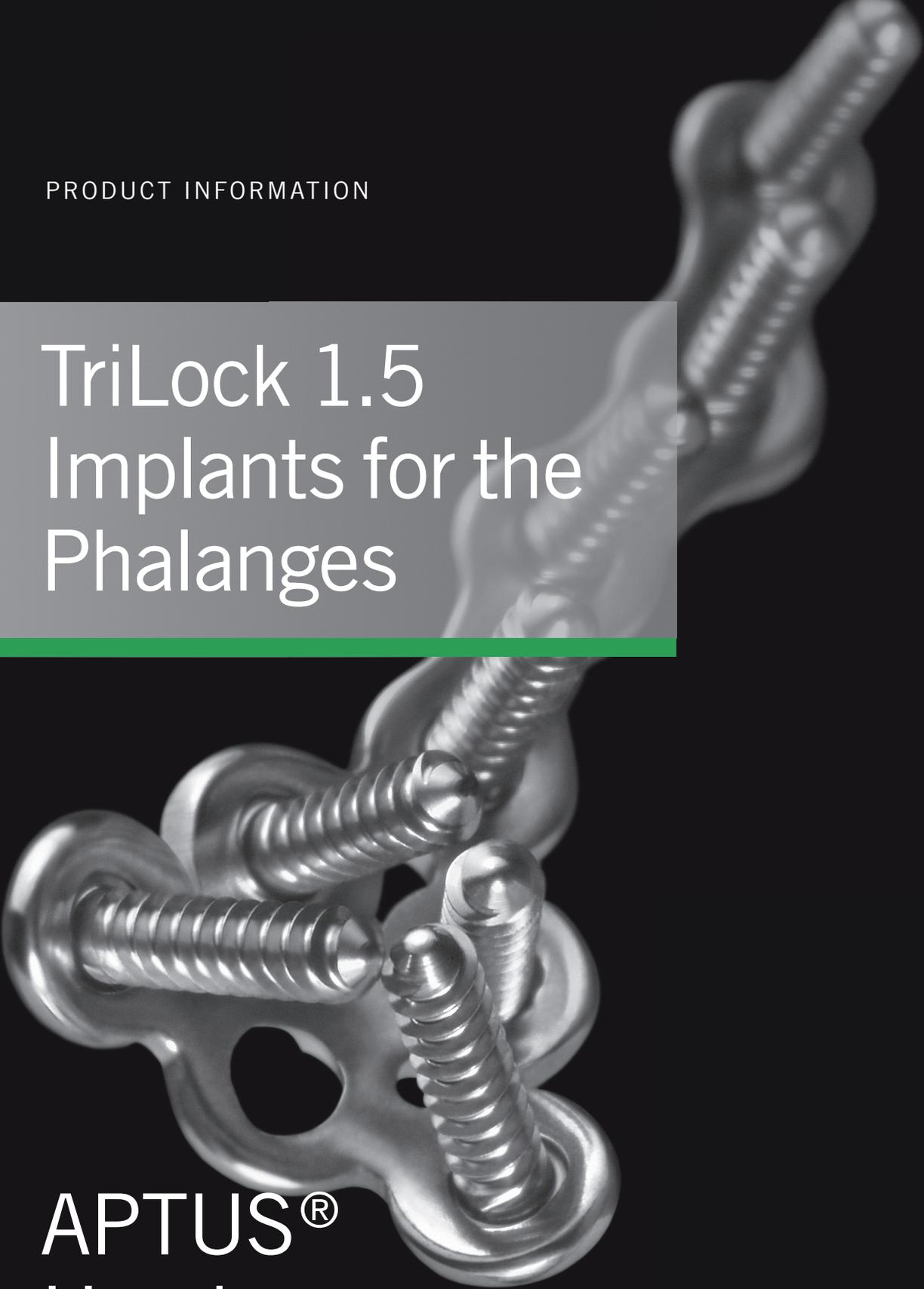
medartis®

PRECISION IN FIXATION

PRODUCT INFORMATION

# TriLock 1.5 Implants for the Phalanges

APTUS®  
Hand



# TriLock 1.5

## The Smallest Locking System

Small, slender, strong

Low profile and angular stable 1.5 TriLock hand plates and screws are a new addition to the APTUS Hand fixation system, expanding possible treatment options 1.5 TriLock implants set a new standard in the angular stable fracture fixation of the hand. Design and configuration of plates and screws have been optimized for the complex anatomy of the phalanges. 1.5 TriLock implants provide an increased support in comminuted and intra-articular fractures and fractures close to the joint, as well as improved stability in osteoporotic bone and arthrodeses.

### Clinical Benefits and Features

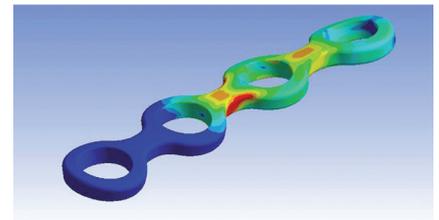
#### Optimized Plate Geometry

- 0.8 mm low profile plates
- Double bar on all straight plates for an increase of torsional stability by 20%
- Offset screw holes
  - to avoid screw collisions
  - to increase rotational stability
- Variable angled locking ( $\pm 15^\circ$ ) in each plate hole

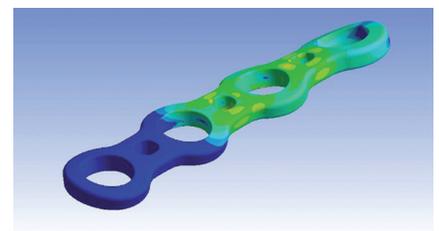
#### Maximum Soft Tissue Protection

- Highly polished surface and rounded edges to reduce soft tissue irritation and adhesion
- Low overall profile

Stress distribution with torsional load; yellow-red coloring = increased stress



Conventional bar design



New bar design



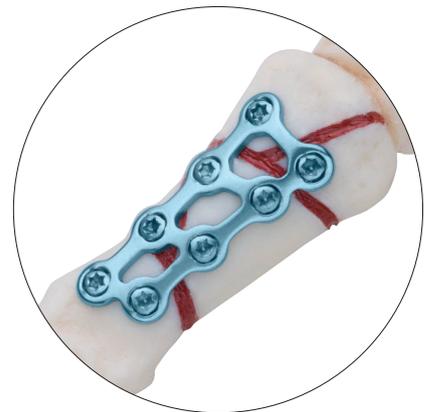
Highly polished surface left, conventional surface right

- Internal fixator for the phalanges
- Multidirectional ( $\pm 15^\circ$ ) and angular stable
- Highly polished surface and rounded edges

## Special Plate Designs

### Grid Plates

- High rotational stability, especially for comminuted fractures
- Straight hole arrangement on one end of the plate to position the plate as close to the joint as possible
- Offset hole arrangement to reduce the risk of screw collisions



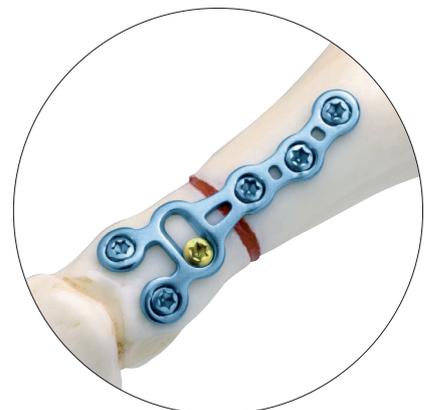
### Double Row T-Plate

- For optimal reconstruction of articular fracture fragments and fractures close to the joint
- Ideal subchondral support of the articular surface
- Offset screw holes in the plate shaft



### Rotation Correction Plate

- The oblong hole is close to the joint to perform the osteotomy close to the meta-physeal area
- Offset screw holes in the plate shaft

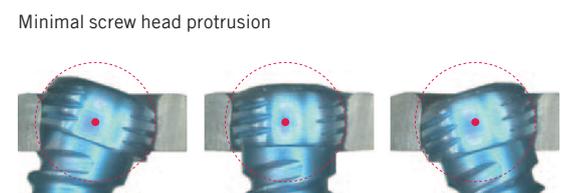
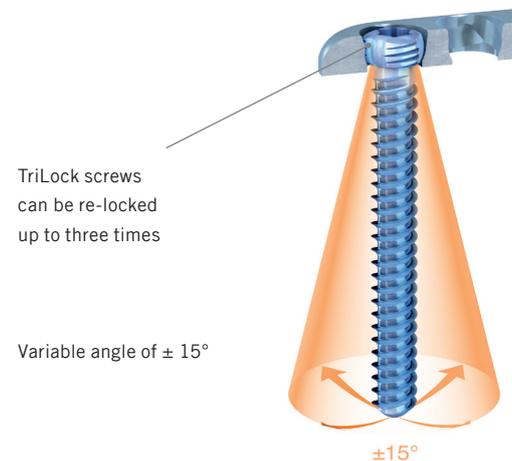
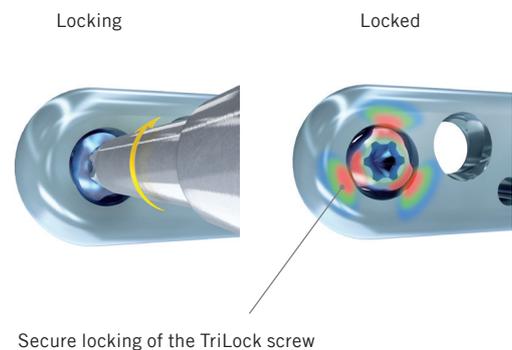


# Technology, Screw Features

## Multidirectional and angular stable TriLock locking technology

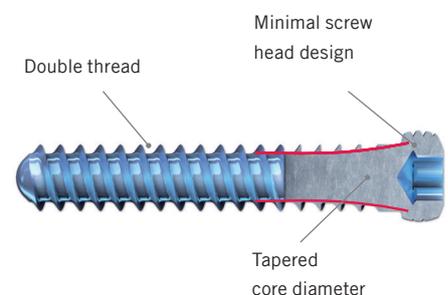
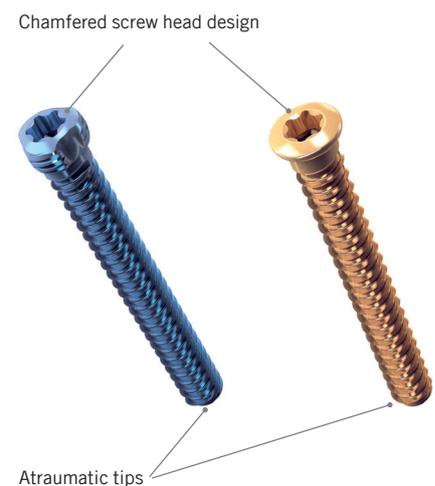
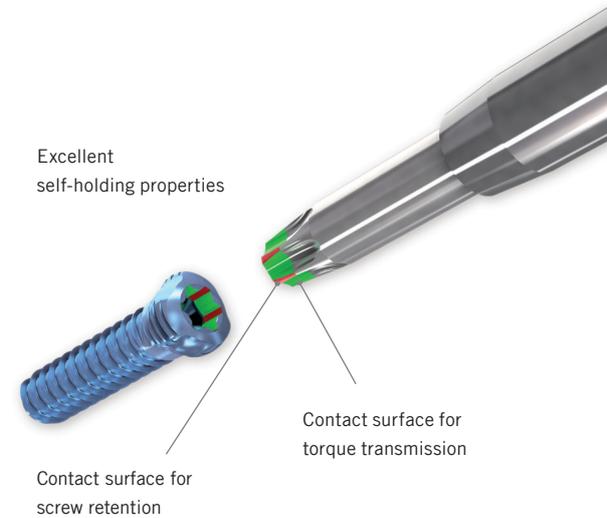
### Technology

- Secure, angular stable locking of the screw in the plate
  - Spherical three-point wedge-locking
  - Friction locking through radial bracing of the screw head in the plate – without additional tensioning components
- Screws can pivot freely by  $\pm 15^\circ$  in all directions for optimal positioning
- Intra-operative fine tuning capabilities
- TriLock screws can be re-locked in the same plate hole under individual angles up to three times
- Minimal screw head protrusion thanks to submerged locking contour
- No cold welding between plate and screws



## Screw Features

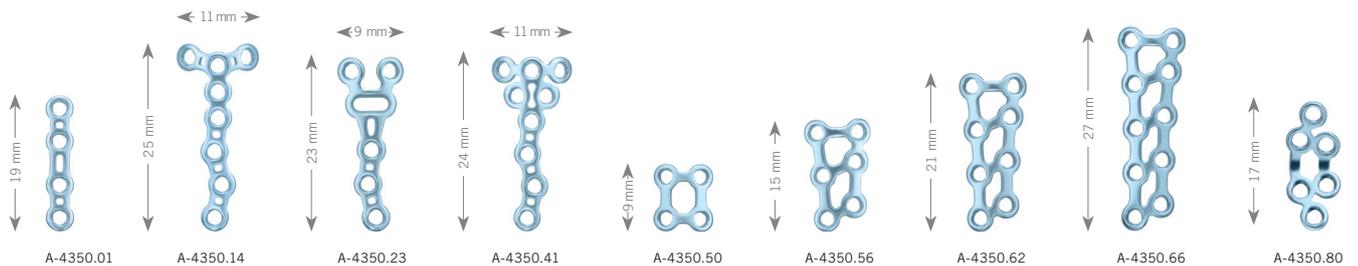
- HexaDrive screw head design
  - Secure connection between screw and screwdriver
  - Increased torque transmission
  - Optimal self-retaining mechanism
- Maximum soft tissue protection due to chamfered shape of the screw head without sharp edges
- Atraumatic tip prevents soft tissue irritation when inserting screws bicortically
- Tapered core diameter for increased torsional and tensile strength
- Precision cut thread profile for improved sharpness and self-tapping properties
- Double threaded for faster insertion of TriLock screws
- TiAl6V4 for improved strength
- Each plate hole can be used with 1.2/1.5 cortical (fixation) or 1.5 TriLock screws



# Ordering Information

## 1.5 TriLock Plates

Material: Titanium (ASTM F67)  
 Plate thickness: 0.8 mm



Art. No.	Description	Holes	Piece per Pack
A-4350.01	straight	4	1
A-4350.14	T	8 (3/5)	1
A-4350.23	rotation	6 (3/3)	1
A-4350.41	double row, T	9 (5/4)	1
A-4350.50	Grid, rectangular	4 (2x2)	1
A-4350.56	Grid, trapezoid	6 (3x2)	1
A-4350.62	Grid, trapezoid	8 (4x2)	1
A-4350.66	Grid, trapezoid	10 (5x2)	1
A-4350.80	Scaphoid	6 (3x2)	1

## 1.5 TriLock Screws, HexaDrive 4

Material: Titanium (ASTM F136)



2:1

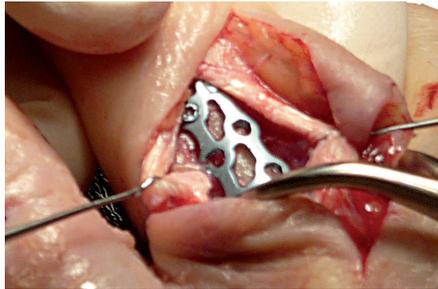
Length	Art. No	Piece per Pack	Art. No.	Piece per Pack
4 mm	A-5250.04/1	1	A-5250.04	5
5 mm	A-5250.05/1	1	A-5250.05	5
6 mm	A-5250.06/1	1	A-5250.06	5
7 mm	A-5250.07/1	1	A-5250.07	5
8 mm	A-5250.08/1	1	A-5250.08	5
9 mm	A-5250.09/1	1	A-5250.09	5
10 mm	A-5250.10/1	1	A-5250.10	5
11 mm	A-5250.11/1	1	A-5250.11	5
12 mm	A-5250.12/1	1	A-5250.12	5
13 mm	A-5250.13/1	1	A-5250.13	5

# Clinical Cases

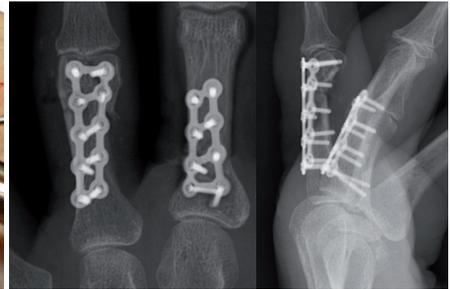
## Case 1 – Fracture of the Proximal Phalanges III and IV



Preoperative X-rays  
72 year old woman, 4 weeks after fall from a ladder with temporary K-wire fixation



Osteosynthesis with two grid plates

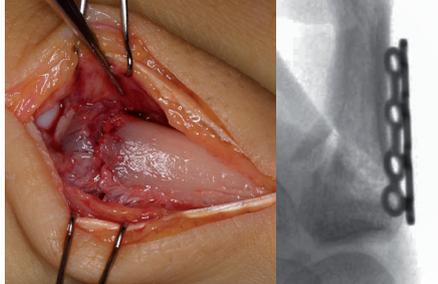


Postoperative X-rays

## Case 2 – Fracture of the Proximal Phalanx V



Preoperative X-rays  
48 year old man after bicycle accident



Left: Intraoperative view of the comminuted fracture zone  
Right: Intraoperative X-ray of the instable fracture site

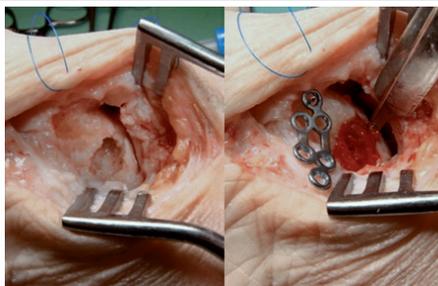


Postoperative X-rays

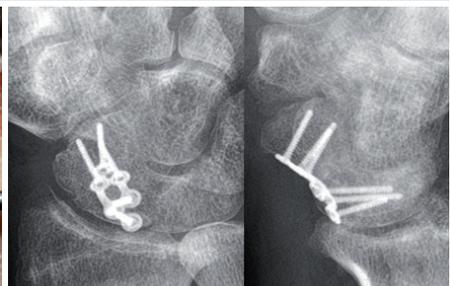
## Case 3 – Scaphoid Nonunion



Preoperative CT and X-ray  
Patient: male, 38 years old  
Nonunion of the scaphoid



Intraoperative image, volar  
Left: Resection of the pseudarthrosis tissue  
Right: Pre-fixation of the plate with a suture



X-rays, 10 weeks postoperative  
The union of the pseudarthrosis is well visible

HAND-01000001\_v2 / © 08.2013, Medartis AG, Switzerland. All technical data subject to alteration.

#### **HEADQUARTERS**

Medartis AG | Hochbergerstrasse 60E | 4057 Basel/Switzerland  
P +41 61 633 34 34 | F +41 61 633 34 00 | [www.medartis.com](http://www.medartis.com)

#### **SUBSIDIARIES**

Australia | Austria | France | Germany | Mexico | New Zealand | Poland | UK | USA

For detailed information regarding our subsidiaries and distributors, please visit [www.medartis.com](http://www.medartis.com)