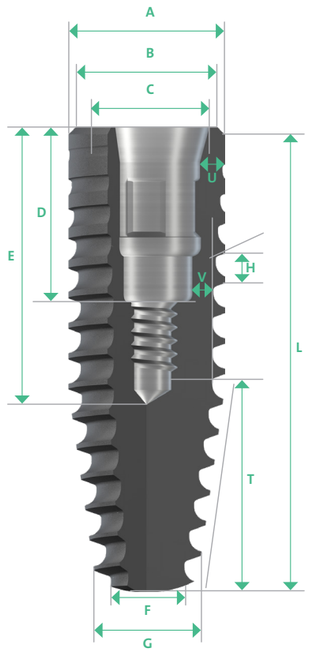
STRAUMANN® BLT IMPLANT SYSTEM

# DRILLING PROTOCOL

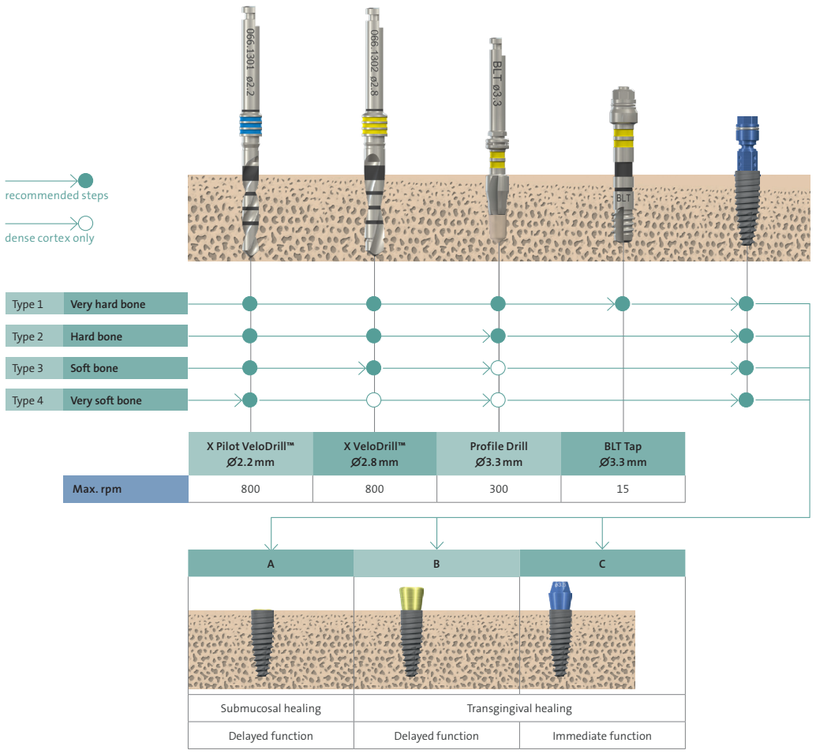



**Straumann® BLT Implant Ø3.3 mm**

| Straumann® BLT Implant | | | | | |
|---|---|---|---|---|---|
| | **Bone Level Tapered** | **SDI Ø2.9** | **BLT Ø3.3** | **BLT Ø4.1** | **BLT Ø4.8** |
| **A** | Diameter | Ø2.9 mm | Ø3.3 mm | Ø4.1 mm | Ø4.8 mm |
| **B** | Platform | Ø2.8 mm | Ø3.1 mm | Ø3.7 mm | Ø4.4 mm |
| **C** | Connection diameter | SC Ø2.3 mm | NC Ø2.8 mm | RC Ø3.3 mm | |
| **D** | Connection depth | 3.6 mm | 4.6 mm | | |
| **E** | Connection depth incl. screw hole | 5.6 mm | 6.9 mm | | |
| **F** | Apical diameter core | Ø0.6 mm | Ø1.1 mm | Ø1.8 mm | Ø2.3 mm |
| **G** | Apical diameter threads | Ø1.5 mm | Ø2.0 mm | Ø2.7 mm | Ø3.2 mm |
| **H** | Thread pitch / flank lead / depth | 0.8 mm / 20° / 0.3 mm | | | |
| **L** | Lengths | 10 - 14 mm | 8 – 18 mm | | |
| **T** | Tapered part / taper | 3.9 mm/11° | 5.3 mm/9° | | 5.8 mm/9° |
| **U** | Wall thickness - top | 0.6 mm | | 0.7 mm | 1.0 mm |
| **V** | Wall thickness - mid | 0.5 mm | 0.6 mm | | 0.9 mm |

## Workflow for BLT Ø3.3 mm NC

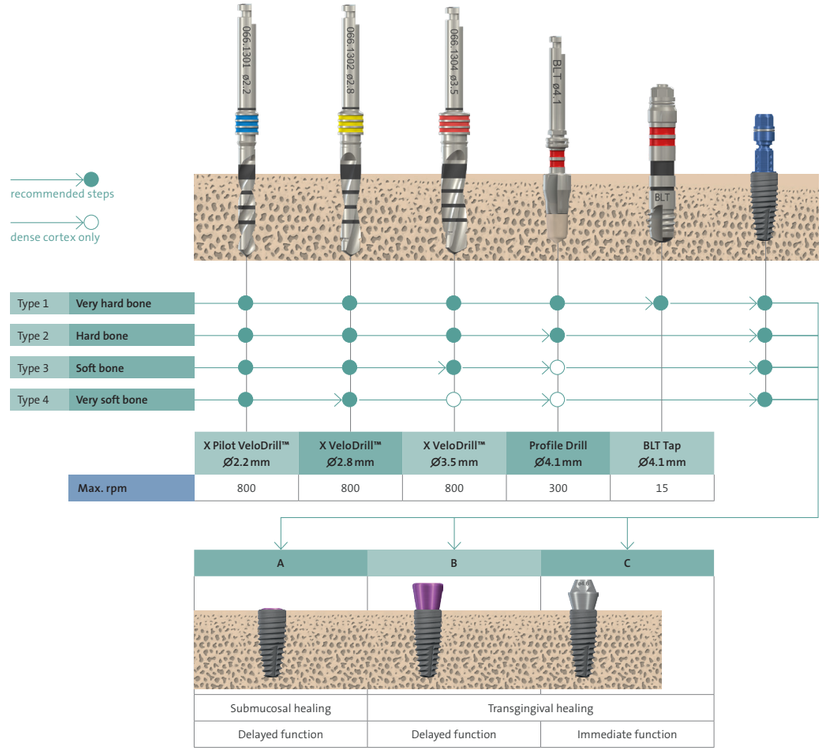
Implant bed preparation, Straumann® Bone Level Tapered Ø3.3 mm, Ø4.1 mm and Ø4.8 mm.




**Note:** In soft bone and very soft bone situations with a dense cortex, it is recommended to use the Profile Drill to prepare the cortical aspect of the osteotomy.

## Workflow for BLT Ø4.1 mm RC

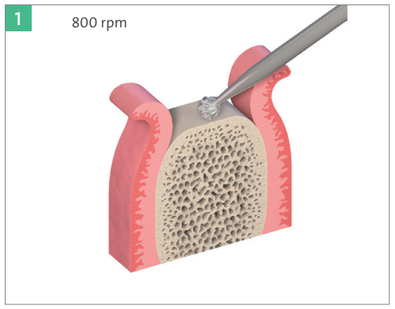
Implant bed preparation, Straumann® Bone Level Tapered Ø4.1 mm.




**Note:** In soft bone and very soft bone situations with a dense cortex, it is recommended to use the Profile Drill to prepare the cortical aspect of the osteotomy.

## IMPLANT BED PREPARATION

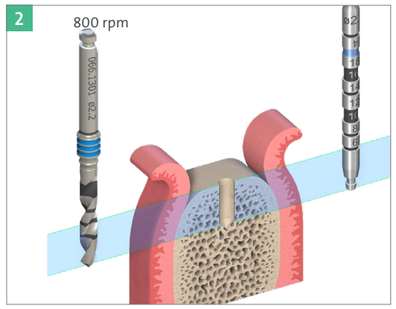
Implant bed preparation on the example of a Bone Level Tapered Implant Ø4.1 mm/10 mm RC in very hard bone (type 1). For specific information about the BLT Ø2.9 mm, pleaser refer to section 5.1.4.
After opening the gingiva, the implant bed preparation begins with the preparation of the alveolar ridge (Step 1) and the marking of the implantation site with a Round Bur (Step 1), followed by the implant bed preparation with the X Pilot VeloDrill™ and the X VeloDrill™ (Step 2 and 3), according to the endosteal implant diameter. The implant bed is widened in the cortical layer with the BLT Profile Drill (Step 5) and the threads are precut with the BLT Tap (Step 6).




### STEP 1
**Prepare alveolar ridge and mark implant position**

Carefully reduce and smooth a narrow tapering ridge with a large Round Bur. This will provide a flat bone surface and a sufficiently wide area of bone. Mark the implantation site determined during the implant position planning with the Ø1.4 mm Round Bur or Ø1.6 mm Needle Drill.

**Note:** This step may not be applicable or may differ depending on the clinical situation (e.g. fresh extraction socket).



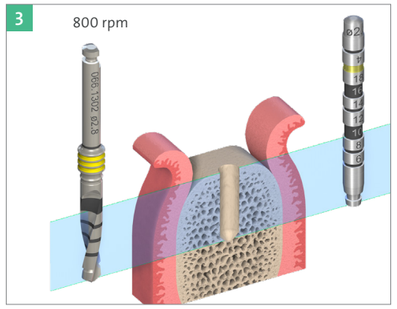

### STEP 2
**Implant axis and depth**

With the Ø2.2 mm X Pilot VeloDrill™, mark the implant axis by drilling to a depth of about 6 mm. Insert the Ø2.2 mm Alignment Pin to check for correct implant axis orientation.

Use the Ø2.2 mm X Pilot VeloDrill™ to prepare the implant bed to the final preparation depth. If necessary, correct any unsatisfactory implant axis orientation.

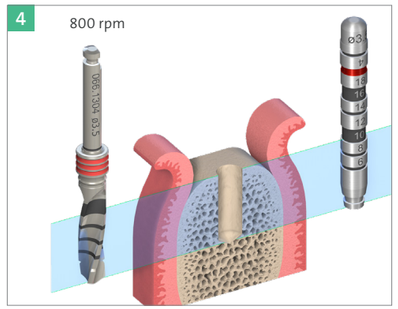
Use the Ø2.2 mm Alignment Pin again to check the implant axis and preparation depth.

**Caution:** At this point take an X-ray, particularly with vertically reduced bone availability. The Alignment Pin is inserted into the drilled area, which allows a comparative visualization of the drill hole in relation to the anatomical structures.



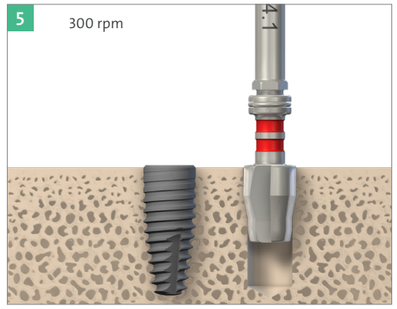

### STEP 3
**Widen implant bed to Ø2.8 mm**

Widen the implant bed with the Ø2.8 mm X VeloDrill™. If necessary, correct the implant bed position. Use the Ø2.8 mm Depth Gauge to check the preparation depth.



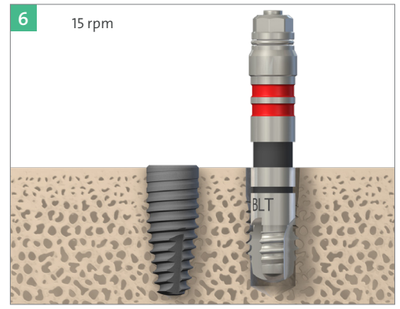

### STEP 4
**Widen implant bed to Ø3.5 mm**

Widen the implant bed with the Ø3.5 mm X VeloDrill™. If necessary, correct the implant bed position. Use the Ø3.5 mm Depth Gauge to check the preparation depth.




### STEP5
**Profile drilling**

Shape the coronal part of the implant bed with the Ø4.1 mm Profile Drill with the edge of the outer rim at bone level.



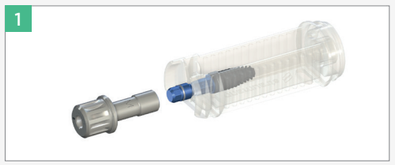

### STEP 6
**Tap drilling**

Precut the threads with the Ø4.1 mm Tap Drill over the full depth of the implant bed preparation.

**Caution:** Profile Drills and Taps marked with two color rings must only be used for the Bone Level Tapered Implant system.

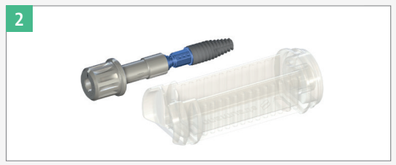
## IMPLANT PLACEMENT

A Straumann® implant can be placed with the Handpiece or manually with the Ratchet. Do not exceed the recommended maximum speed of 15 rpm when you use the Handpiece.
**Note:** Straumann® Bone Level Tapered Implants must be rotationally oriented for both Handpiece and Ratchet insertion (see Step 4). The following step-by-step instructions show how a Bone Level Tapered Implant is placed with the Ratchet.



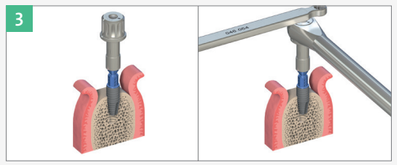

### STEP 1
**Attach Ratchet Adapter**

Hold the enclosed part of the implant carrier. Attach the Ratchet Adapter to the Loxim®. You hear a click when the Adapter is attached correctly.



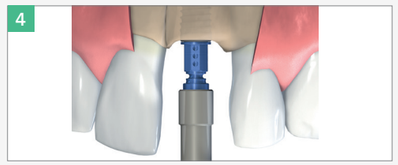

### STEP 2
**Remove implant from the carrier**

Pull down the implant carrier and, simultaneously, lift the implant out of the implant carrier (keep your arms steady).



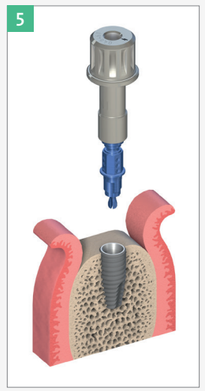

### STEP 3
**Place implant**

Place the implant with the Ratchet Adapter into the implant bed. Use the Ratchet to move the implant into its final position turning it clockwise.




### STEP 4
**Correct implant orientation**

While approaching the final implant position, make sure that the height markings on the blue transfer part are oriented exactly orofacially. This positions the four protrusions of the internal connection for ideal prosthetic abutment orientation. A turn to the next marking corresponds to a vertical displacement of 0.2 mm.




### STEP 5
**Remove Loxim®**

The Loxim® can easily be re-inserted to finish an uncompleted implant placement until the implant is fully inserted. If the implant needs to be removed during implantation surgery, the Loxim® allows for counterclockwise turns. After insertion, detach the Loxim® with the Adapter.

If an insertion torque of over 35 Ncm is achieved before the implant has assumed its final position, check that the implant bed preparation is correct to avoid bone overcompression. The Loxim® is provided with a pre-determined breaking point at 80 Ncm to prevent damage to the inner configuration of the implant, thus ensuring the integrity of the interface for mounting the prosthesis.

After breakage of the Loxim®, the remaining part of the Loxim® in the implant must be removed and the implant, if not fitted correctly, has to be unscrewed with a 48h Explantation Device. The implant bed then has to be re-prepared and a new implant inserted. For further details, please consult the brochure Guidance for Implant Removal, (USLIT.426) for USA and 152.806 (English) and 153.866 (French) for Canada.