

# DRILLING PROTOCOL FOR COMPRESSIVE IMPLANTS

## CAVITY PREPARATION

Every person has a unique bone structure and the clinician has to adapt the drilling protocol to the individual bone quality and anatomical situation. Our drilling protocol is an optimal scheme for different types of bones: soft, medium and hard / very hard.

**PREPARING A CAVITY FOR IMPLANT,  
ALWAYS ENSURE COOLING**

**ONLY USE SHARP INSTRUMENTS**

## DRILLING SPEED

Recommended drilling speed:

- initiating drilling – 1200–1500 Rpm;
- pilot drilling – 900–1200 Rpm;
- form drilling – 200–800 Rpm.

The choice of the turning speed is the responsibility of the implantologist, regarding his own experiences, preferences and special necessities of the patient. (This protocol was prepared with a max speed of 700 Rpm).

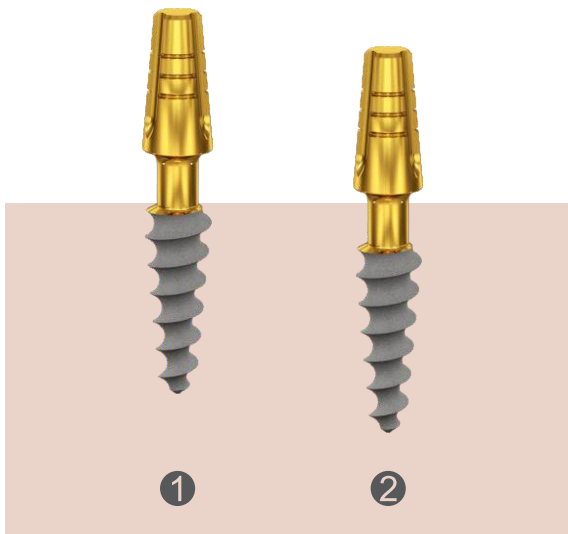
Insertion torque for implants is 25-50 Ncm (using Torque wrench TW50).

## IMPLANTS POSITION

There are two options for COMPRESSIVE implant implantation:

1. the length of the implant thread without the neck;
2. the length of the implant thread + implant's neck.

For the 2nd option drilling should go 3 mm (for Compressive), 1,5 mm (for Compressive S) deeper than implant length.



## DRILLS TYPES

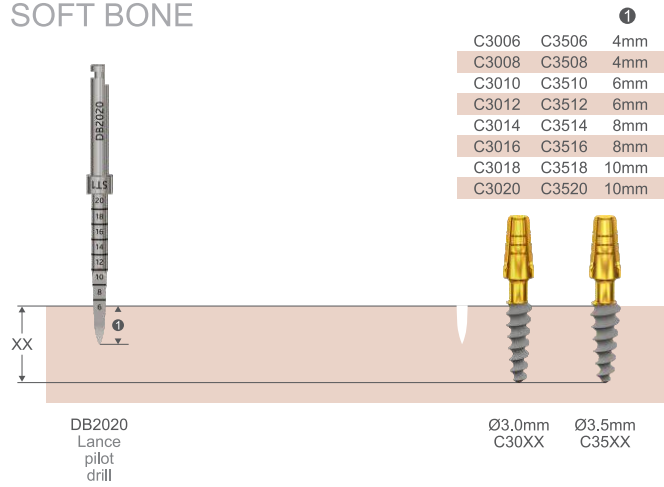
There are two options what types of drills can be used for cavity preparation for COMPRESSIVE implants:

- using ROOTT universal drills;
- using ROOTT universal drills and form drills for COMPRESSIVE implants.

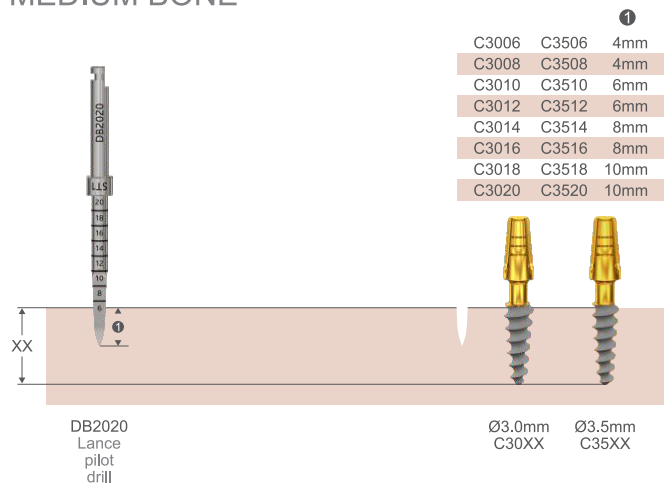
## COMPRESSIVE implants installation using ROOTT universal drills

# IMPLANTS C30XX, C35XX

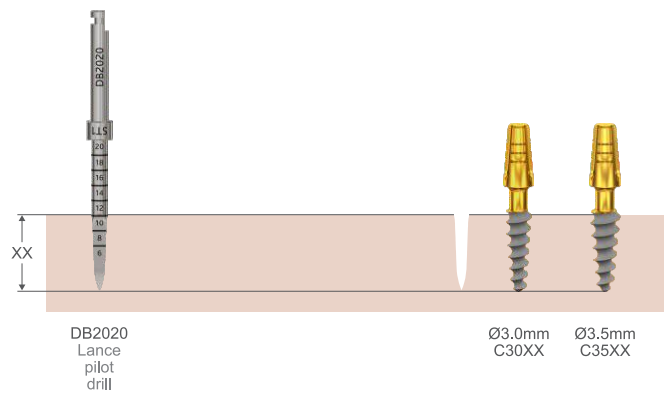
## SOFT BONE



## MEDIUM BONE



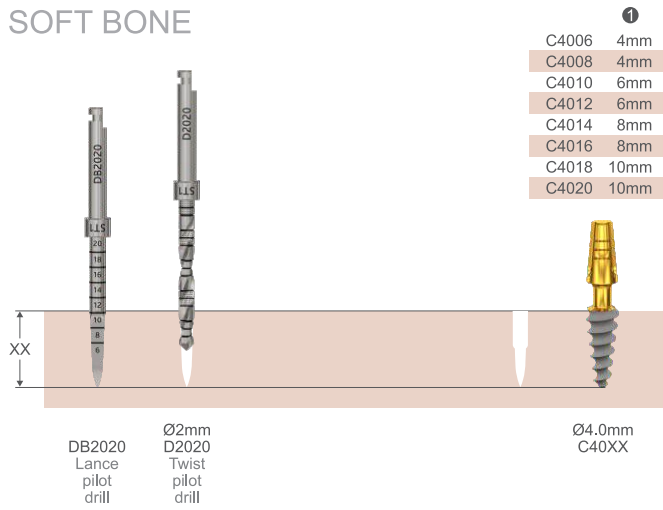
## HARD BONE



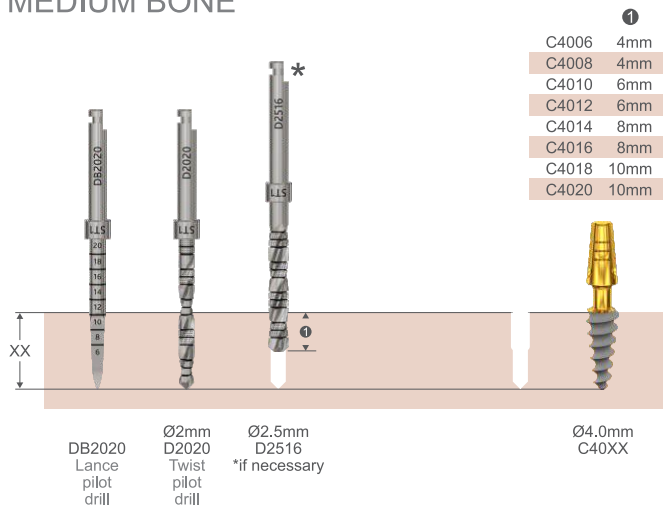
Here xx is the length of the implant, mm

# IMPLANT C40XX

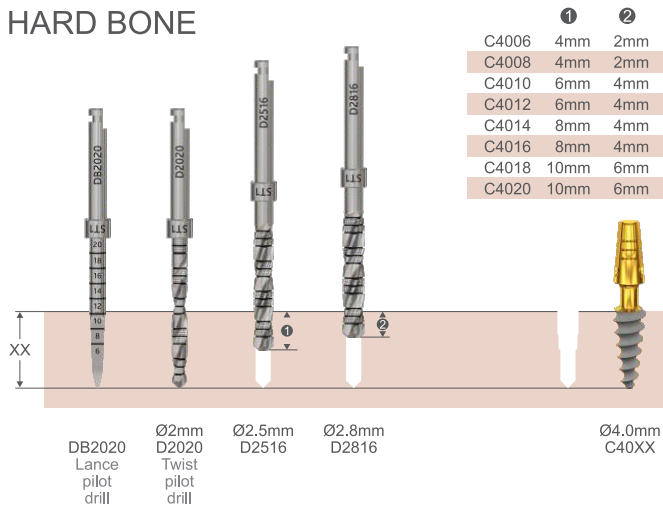
## SOFT BONE



## MEDIUM BONE



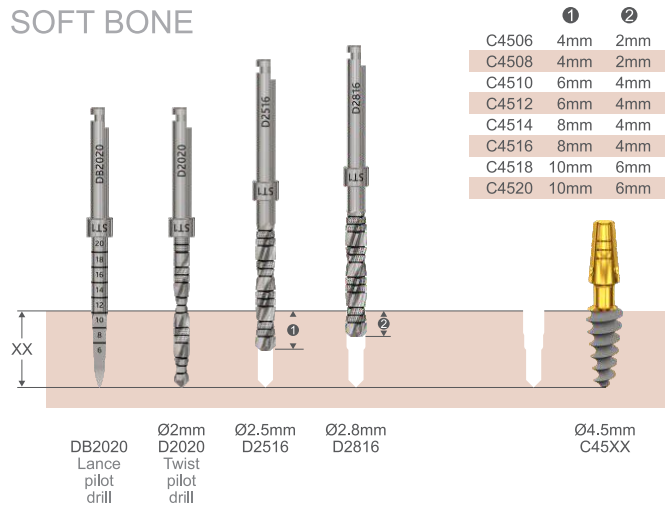
## HARD BONE



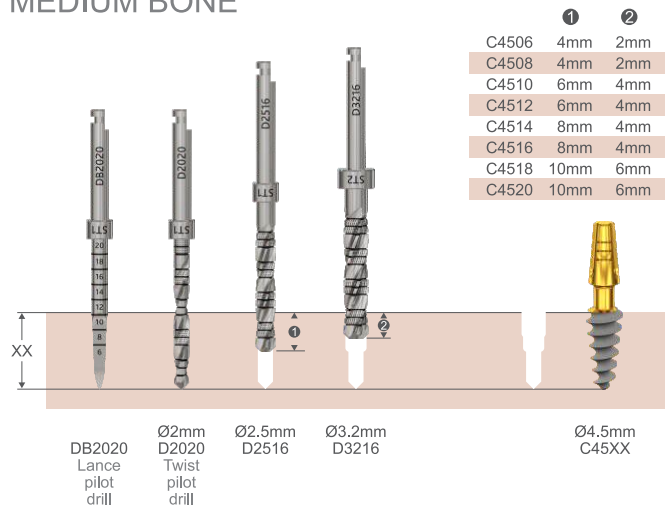
Here xx is the length of the implant, mm

# IMPLANT C45XX

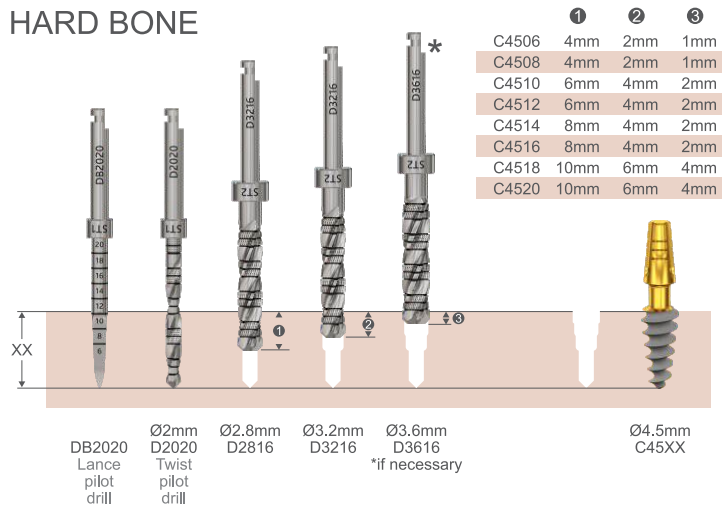
## SOFT BONE



## MEDIUM BONE



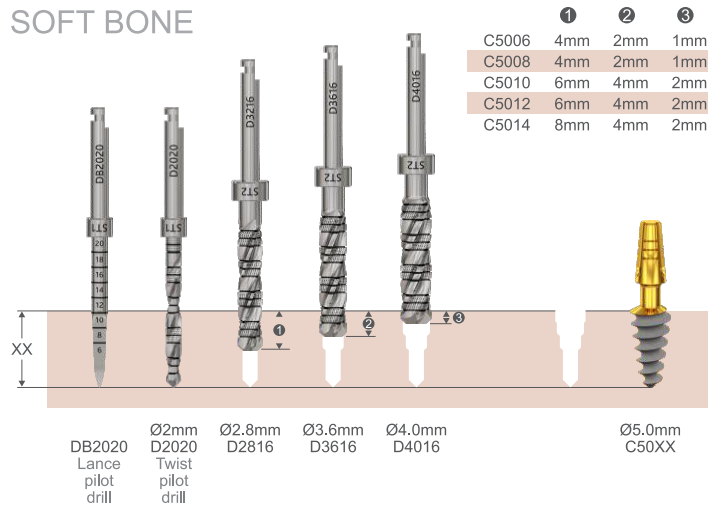
## HARD BONE



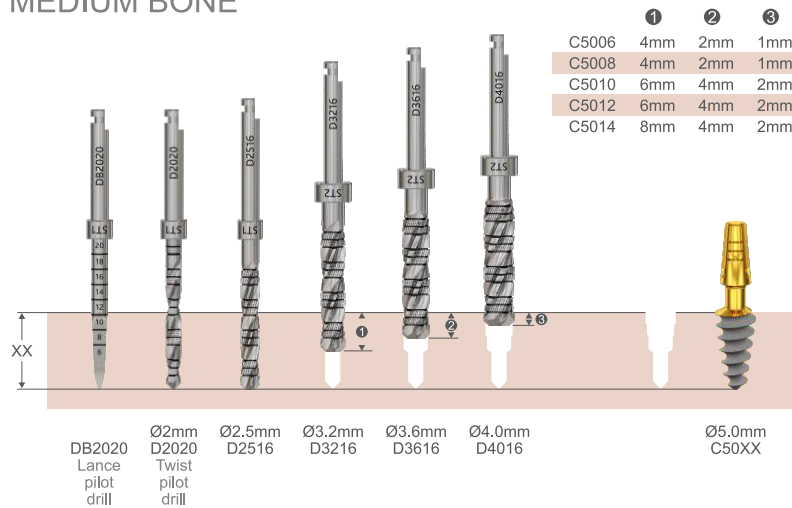
Here xx is the length of the implant, mm

# IMPLANT C50XX

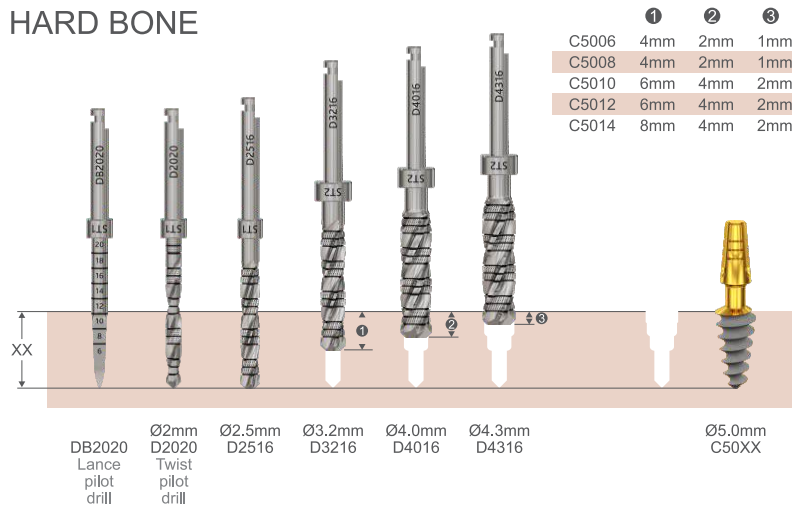
## SOFT BONE



## MEDIUM BONE



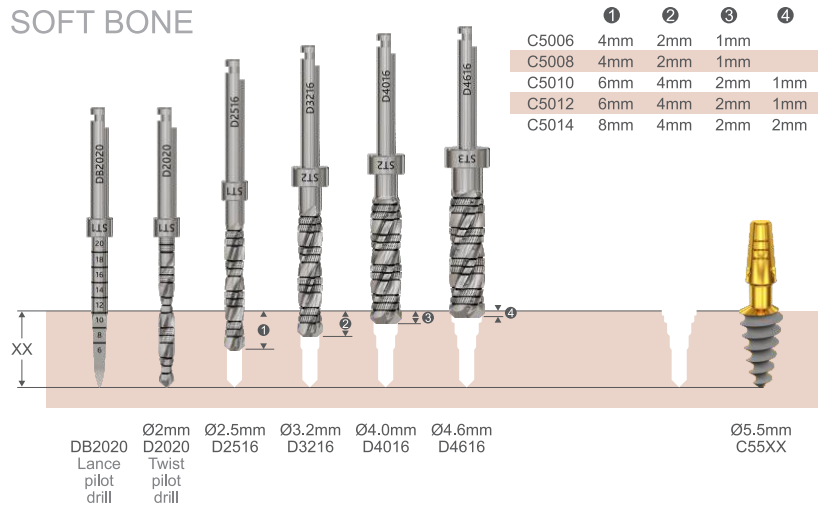
## HARD BONE



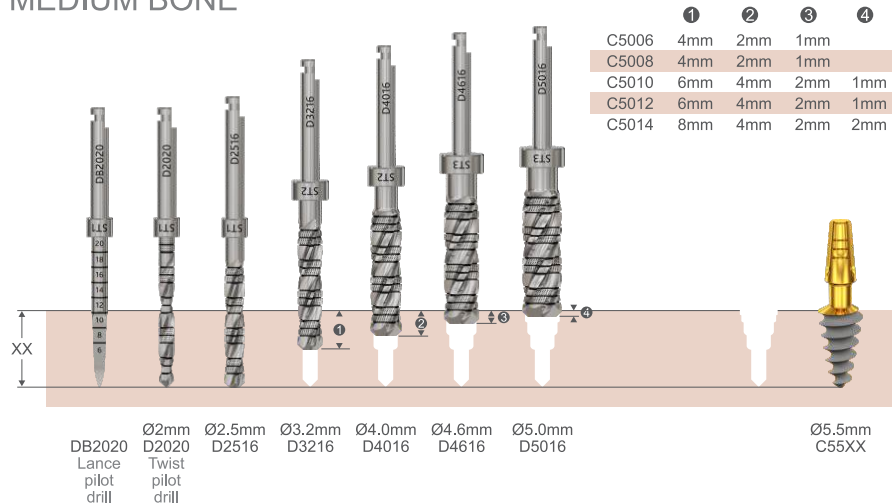
Here xx is the length of the implant, mm

# IMPLANT C55XX

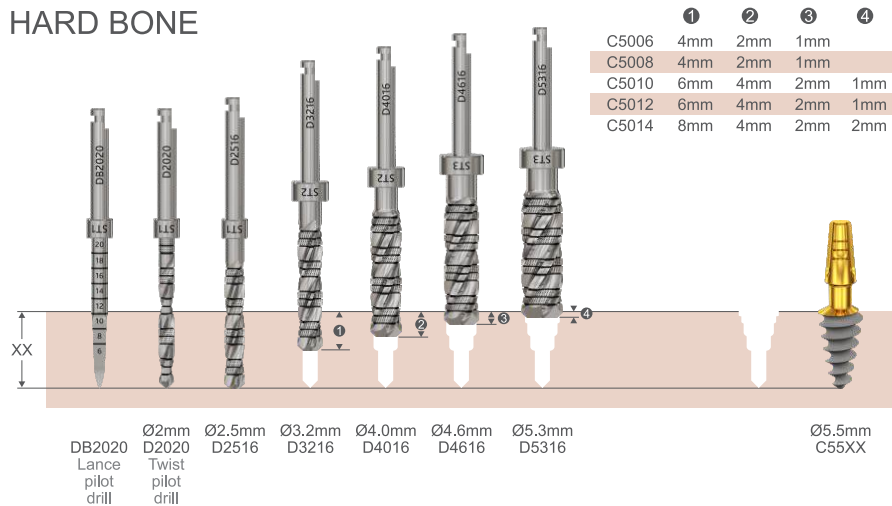
## SOFT BONE



## MEDIUM BONE



## HARD BONE



Here xx is the length of the implant, mm

For a very hard bone - the same protocol as for hard bone and can be finished with Compressive screws (pictures below, same as with form drills).

Compressive screws are used to form a thread to ensure proper integration of the implant to the bone. The thread design of the tapers exactly imitate the threads of implant.

## **COMPRESSIVE implants installation using ROOTT universal drills and form drills for COMPRESSIVE implants**

### **DRILLING WITH FORM DRILLS**

Start osteotomy with universal drills, substitute the cortical drilling with the form drills. They can replace 2 or 3 last universal drills if needed.

For medium to soft bone it is better to use a form drill that is a size smaller (by diameter).

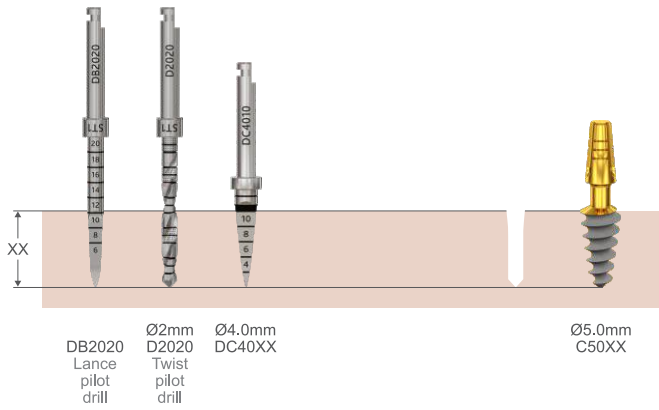
For soft bones it is better to use a form drill that is two sizes smaller.

Form drills are the same shape as COMPRESSIVE implants.

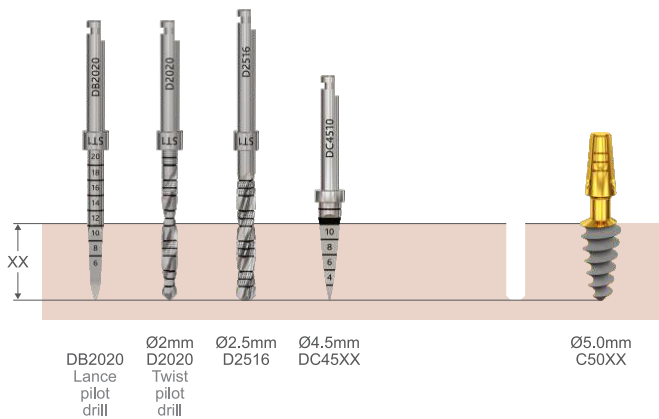


# IMPLANT C50XX

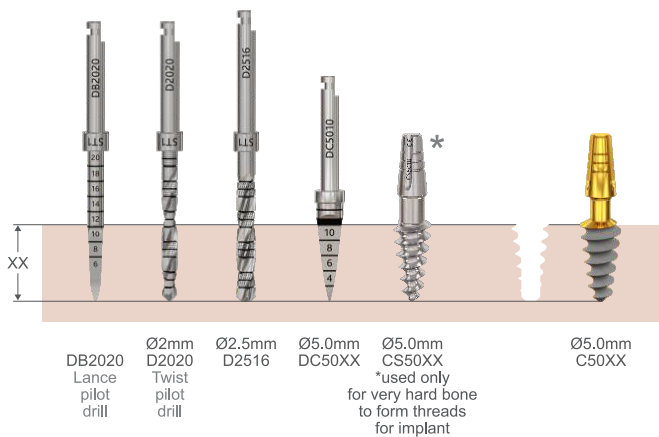
## SOFT BONE



## MEDIUM BONE



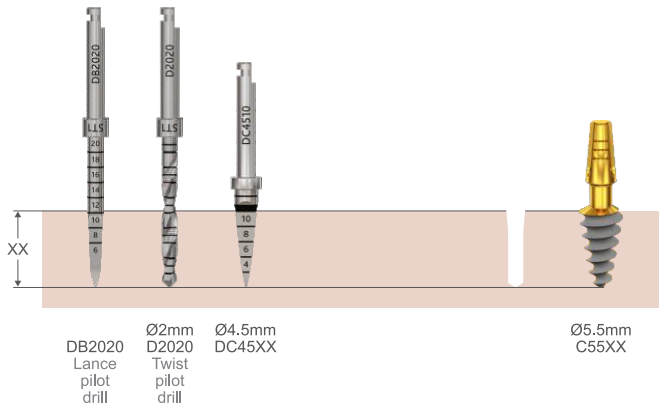
## HARD OR VERY HARD BONE



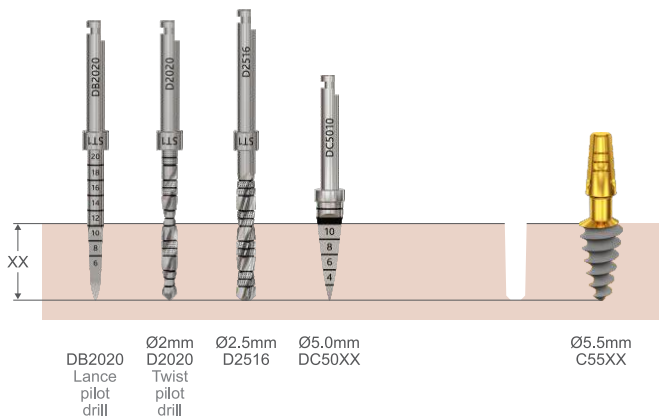
Here xx is the length of the implant, mm

# IMPLANT C55XX

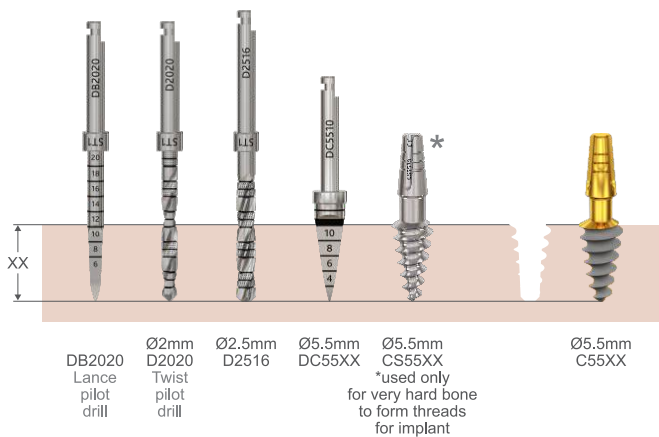
## SOFT BONE



## MEDIUM BONE



## HARD OR VERY HARD BONE



Here xx is the length of the implant, mm

Compressive screws (CSXXxx) are used for hard (or very hard bone) to form thread for implant (see picture).

It is always recommended firstly to use a smaller diameter drill and try implant insertion.

### **What is "if necessary"?**

In case after using the previous drill the torque is still too high (more than 50 Ncm) while inserting the implant, the cavity has to be widened. To widen the cavity, a drill of wider diameter is used, but submerged less deep than implant length.

# Compressive implants installation using ROOTT universal drills

Soft bone	Medium bone	Hard bone	
<b>Ø 3.0 MM IMPLANT</b>			
① DB2020	① DB2020	① DB2020	① C3006, C3008 - 4 mm C3010, C3012 - 6 mm C3014, C3016 - 8mm C3018, C3020 - 10 mm
<b>Ø 3.5 MM IMPLANT</b>			
① DB2020	① DB2020	DB2020	① C3506, C3508 - 4 mm C3510, C3512 - 6 mm C3514, C3516 - 8mm C3518, C3520 - 10 mm
<b>Ø 4.0 MM IMPLANT</b>			
DB2020 ① D2020	DB2020 D2020 ① (if necessary) D2516	DB2020 D2020 ① D2516 ② D2816	① C4006, C4008 - 4 mm C4010, C4012 - 6 mm C4014, C4016 - 8mm C4018, C4020 - 10 mm ② C4006, C4008 - 2 mm C4010, C4012 - 4 mm C4014, C4016 - 4 mm C4018, C4020 - 6 mm
<b>Ø 4.5 MM IMPLANT</b>			
DB2020 D2020 ① D2516 ② D2816	DB2020 D2020 ① D2516 ② D3216	DB2020 D2020 ① D2816 ② D3216 ③ (if necessary) D3616	① C4506, C4508 - 4 mm C4510, C4512 - 6 mm C4514, C4516 - 8mm C4518, C4520 - 10 mm ② C4506, C4508 - 2 mm C4510, C4512 - 4 mm C4514, C4516 - 4mm C4518, C4520 - 6 mm ③ C4506, C4508 - 1 mm C4510, C4512 - 2 mm C4514, C4516 - 2mm C4518, C4520 - 4 mm

Here xx is the length of the implant, mm

# Compressive implants installation using ROOTT universal drills

Soft bone

Medium bone

Hard bone

## Ø 5.0 MM IMPLANT

DB2020

D2020

① D2816

② D3616

③ D4016

DB2020

D2020

D2516

① D3216

② D3616

③ D4016

DB2020

D2020

D2516

① D3216

② D4016

③ D4316

①

C5006, C5008 - 4 mm

C5010, C5012 - 6 mm

C5014 - 8mm

②

C5006, C5008 - 2 mm

C5010, C5012 - 4 mm

C5014 - 4mm

③

C5006, C5008 - 1 mm

C5010, C5012 - 2 mm

C5014 - 2mm

## Ø 5.5 MM IMPLANT

DB2020

D2020

① D2516

② D3216

③ D4016

④ D4616

DB2020

D2020

D2516

① D3216

② D4016

③ D4616

④ D5016

DB2020

D2020

D2516

① D3216

② D4016

③ D4616

④ D5316

①

C5506, C5008 - 4 mm

C5010, C5012 - 6 mm

C5014 - 8mm

②

C5506, C5008 - 2 mm

C5010, C5012 - 4 mm

C5014 - 6mm

③

C5506, C5008 - 1 mm

C5010, C5012 - 2 mm

C5014 - 4mm

④

C5010, C5012 - 1 mm

C5014 - 2 mm

Here xx is the length of the implant, mm

# COMPRESSIVE implants installation using ROOTT universal drills and form drills for COMPRESSIVE implants

Soft bone	Medium bone	Hard bone
<b>Ø 4.5 MM IMPLANT</b>		
DB2020 D2020 DC35xx	DB2020 D2020 DC40xx	DB2020 D2020 DC45xx CS45xx
<b>Ø 5.0 MM IMPLANT</b>		
DB2020 D2020 DC40xx	DB2020 D2020 D2516 DC45xx	DB2020 D2020 D2516 DC50xx CS50xx
<b>Ø 5.5 MM IMPLANT</b>		
DB2020 D2020 DC45xx	DB2020 D2020 D2516 DC50xx	DB2020 D2020 D2516 DC55xx CS55xx

Here xx is the length of the implant, mm