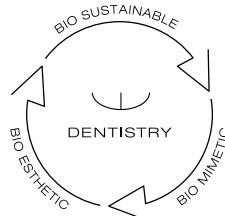


**DIRECT SYSTEM**  
POST & CORE



edelweiss  
DENTISTRY

shaping the future of dentistry

# Bio-Esthetics and Function in One Appointment

**The edelweiss SYSTEMs** with its natural concept of the layering technique is the quintessence of bio-esthetics, bio-mimetics and bio-compatible restorations in direct, semi-direct and indirect digital workflows.

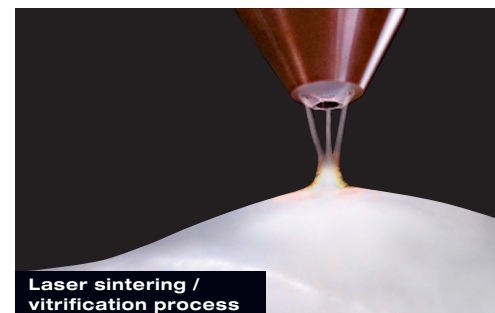
It offers the clinical user as well as the technician a precise understanding of the inner structure of the natural tooth, its optical as well as functional properties and enables the development of unsurpassed bio-esthetics and bio-function with simple, controllable technical and clinical procedures.

Its unique patented production process consists of a modern laser sintering and vitrification process that produces a material with outstanding physical and esthetic properties.

The end result of this manufacturing process is a single glass-ceramic phase embedded in a carbon matrix to obtain a material that:

1. resembles esthetics of pure glass ceramics
2. strength of particle filled ceramics
3. simulates the modulus of elasticity of dentin

The bio-mechanical properties have been reconstructed optimally, merged together with natural bio-esthetics.

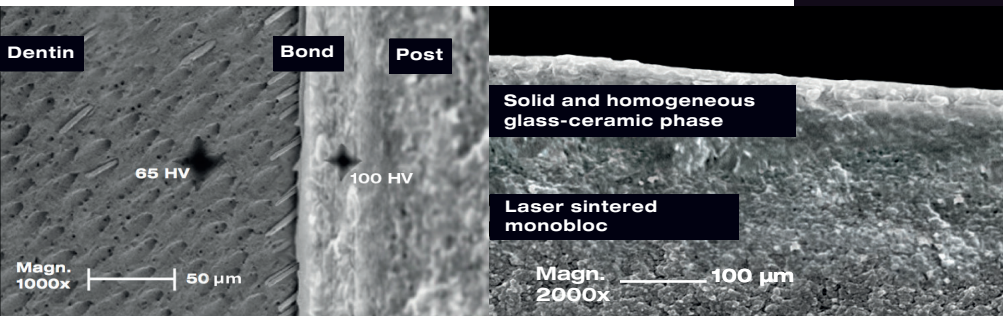


# The Technical Concept

## edelweiss POST & CORE

Although a wide variety of post & core restorative technologies and materials have been introduced into the dental market, there is no consensus on the most appropriate treatment choice for post & core systems. Prefabricated posts have good bio-mechanical and physical properties. However, they cannot be customized for optimal adaptation to the prepared post space. On the other hand, using composite resins for core material may have a higher failure rate because of the weak bonding between the prefabricated post and composite core.

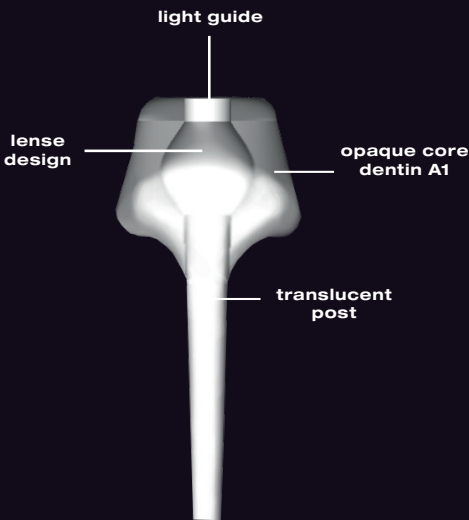
To overcome all of these issues when restoring a badly broken down crown from an endodontically treated tooth, edelweiss dentistry presents a unique, single-piece, high-strength customizable bio-ceramic POST & CORE system. edelweiss dentistry believes in making dentists' chairside treatment simpler, easier and more predictable.



| Technical Data       | POST & CORE |
|----------------------|-------------|
| Flexural Strength    | 200 MPa     |
| Compressive Strength | 550 MPa     |
| Flexural Modulus     | 20 GPa      |
| Surface Hardness     | 100 HV      |

(Source: University of Geneva / internal data edelweiss dentistry)

## DIRECT SYSTEM POST & CORE



## INNOVATION

The edelweiss POST & CORE system is a laser sintered monobloc designed to avoid the wedging effect. The posts have a conical shape for perfect post space adaptation. The translucency of the post allows uninterrupted light transmission for complete polymerization even at the most apical portion of the post.

The edelweiss POST is further enhanced by a core buildup into a single monobloc which is specifically designed to mimic the natural tooth form. The opaque core buildup in Vita Shade A1 is supplied in various anatomical forms based on the natural tooth form thus simplifying the preparation procedure. Any further preparation of this core buildup will then result in a core similar to that of the natural tooth structure. The edelweiss POST & CORE's natural tooth design form enables for better retention of the final clinical crowns.

The adhesive bonding further contributes to avoiding the wedging effect by providing a single monobloc between the adhesive layer and the composite post. It is now possible to carry out the post & core placement together with the final restorative treatment in a single appointment, which is both time and cost effective for patient and dentist alike.

# The Composition



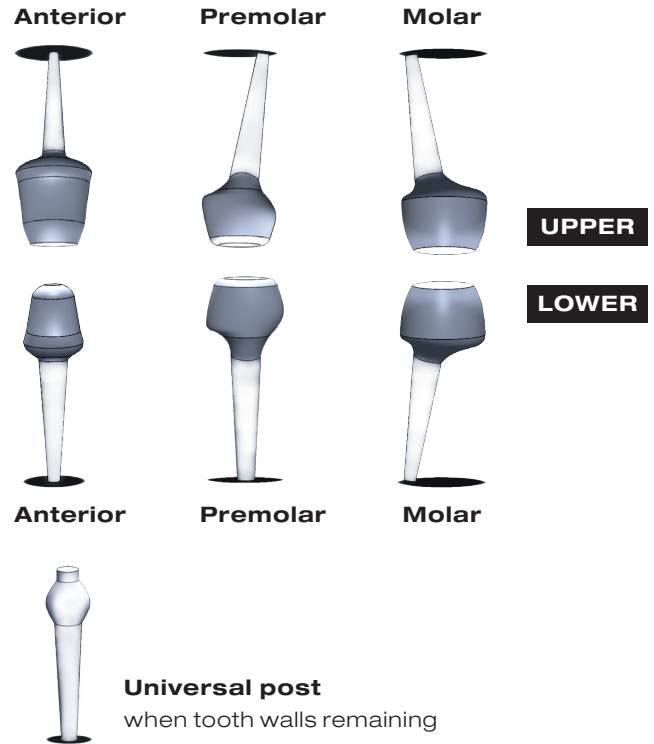
**Dr. Desigar Moodley**

PhD, MSc Dent, PDD Aesthetic, BDS  
Chief Scientific Officer

## edelweiss POST & CORE

«The composition of the edelweiss POST & CORE is barium glass, strontium and zinc oxide (antibacterial) embedded in a carbon matrix. The crystals are sintered to a monobloc which leads to perfect mechanics within the material. The flexural strength is similar to that of natural tooth. Congruent precision laser cut dental drills creates a perfectly prepared post space to suit the anatomical variations within the root canal space. edelweiss POST & CORE system is available in 3 different sizes based on the tooth position corresponding to anterior, premolar and molar regions.»

**“The difference lies in the force buffer of the monobloc.”**



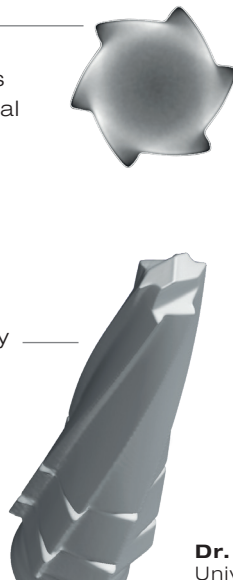
## ADVANTAGES

- Prefabricated POST & CORE
- Translucent Post for periapical light polymerisation
- Innovative monobloc of post and core with A1 buildup for natural integration
- Monobloc avoids wedge effect
- Bio-compatible
- Modulus of elasticity 20 GPa similar to Dentin (15–20 GPa)
- Radio-opaque
- Cuts like dentin
- Superior adhesion to the root canal
- One session, reduced treatment time
- Time and cost effective

## EDELWEISS POST DRILL

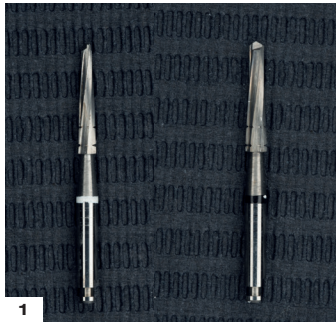
- More cutting edges designed to improve efficiency
- Allows inward progression of drill Flutes designed to allow debris out of the canal
- Improved metallurgy
- Solid center core to maintain centrality within the canal
- Drill remains centered in canal- Law of Centrality maintained
- Allows for ideal post fit

- Tapered design to follow canal anatomy
- Additional flutes allows for dentin debris removal
- Central cutting tip to direct the drill within the canal
- Additional stepped cutting tip for enhanced cutting and shaping of post space

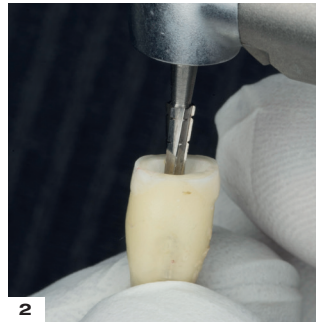


**Dr. Desigar Moodley, CT ScanLab,**  
University of Stellenbosch, South Africa

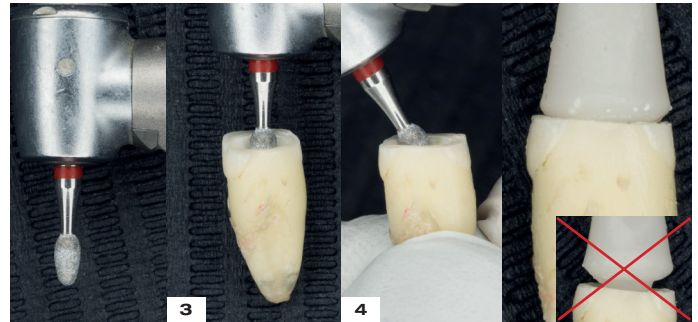
### ROOT PREPARATION



**1** Remove obturation material to desired length using edelweiss POST DRILL (1000-2000 rpm).



**2** Prepare the post space to the pre-determined depth using the edelweiss POST DRILL (2000-5000 rpm) with moderate pressure using water spray.

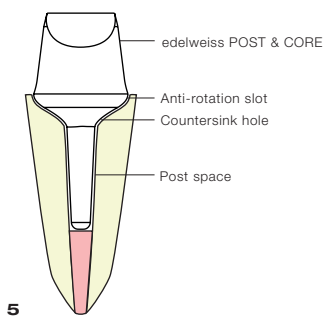


Confirm post space length with a radiograph.

**3** Create a Countersink hole (about 2 mm) with round/oval bur in the coronal part of the post space.

**4** Using the same round/oval bur create an anti-rotation slot to allow for the core part to fit snugly into the root.

### POST / ROOT PREPARATION



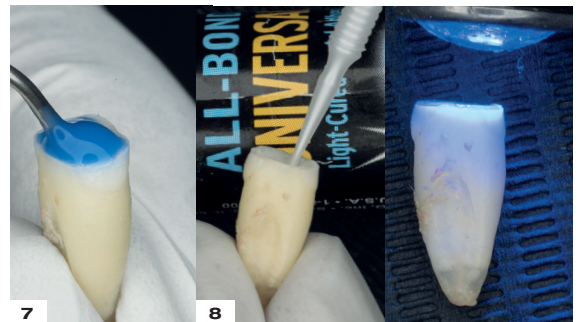
**5** The corresponding size post is tried in the canal and should fit easily within the canal without binding. The core portion of the POST & CORE can be adjusted and customized using the diamond drill and made to fit within the core space extra-coronally.

Confirm post length with a radiograph.



**6** Apply a thin layer of edelweiss VENEER Bond to the surface of the post, blow dry and light cure in all directions for 20 seconds.

Clean or disinfect the root canal with 2.5-5 % sodium hypochlorite solution (NaOCl). Rinse immediately with water and dry with paper points.



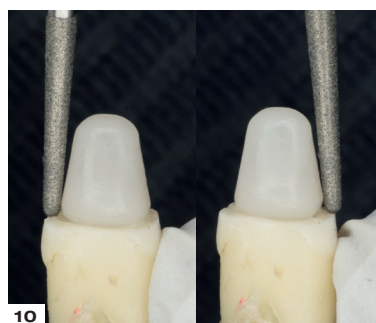
**7** Etch the root canal walls with 37 % phosphoric acid for 15 seconds, rinse and dry.

**8** Apply primer-adhesive into the root canal with a thin micro brush/applicator tip, remove excess with paper points and light cure for 20 seconds.

### POST CEMENTATION



**9** Cementation using edelweiss NANO-HYBRID FLOWABLE COMPOSITE, light cure for 40 seconds in all directions.



**10** Core adjustment: The core can be adjusted accordingly for the final restoration.



**11** Before preparation and after cementation of edelweiss POST & CORE.

# Step by Step POST & CORE



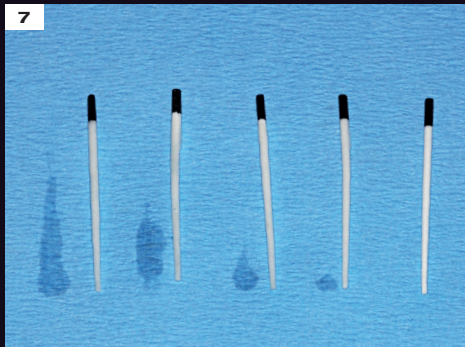
**1**  
X-ray image: pre-operative x-ray showing root filling



**2**  
Caries excavation done and old restorations removed



**3**  
Precision post drill to prepare Post space



**7**  
Changing paper points until absolute dryness



**8**  
Try-in of the POST & CORE



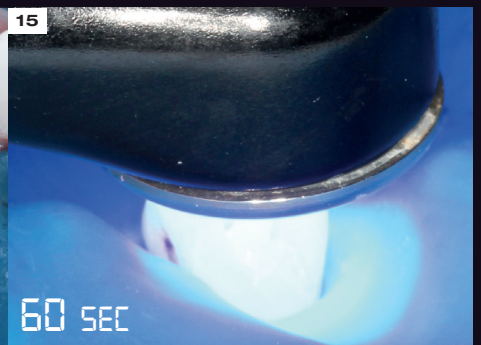
**9**  
Application of dentin adhesive for 30 seconds



**13**  
edelweiss Enamel NANO-HYBRID FLOWABLE COMPOSITE applied into the post space.



**14**  
Placing of the POST & CORE in the post space and remove excess

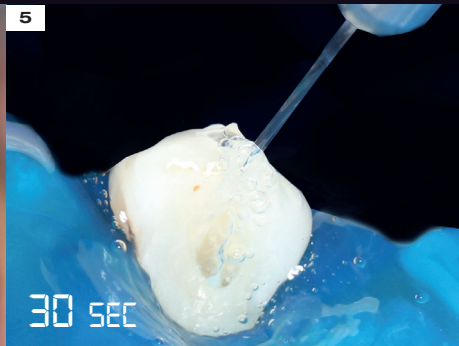


**15**  
Curing with polymerization lamp for 60 seconds

# DIRECT SYSTEM POST & CORE



Etching with 37 % phosphoric acid for 20 seconds



Rinsing thoroughly



Drying with paper points



Drying: beware of contamination



Bonding POST & CORE with edelweiss VENEER Bond for 30 seconds



Curing with polymerization lamp for 30 seconds



POST & CORE build-up ready for following treatment



Treatment with edelweiss VENEERS and OCCLUSIONVD



Post-operative X-ray: POST & CORE

# Case study

## CASE DESCRIPTION BY JESSICA J. SIDHARTA D.M.D.

Restoration with edelweiss POST & CORE, OCCLUSIONVD's and VENEERS



### 1.

The patient's main concern was discoloration of her front teeth which she did not want to lose. She explained that some of the front fillings were loose she would eat very carefully, to avoid losing her teeth.

On clinical examination there were numerous large discoloured composite restorations and chronic inflammation of her gingiva. The patient was truly unhappy about her oral situation resulting in a marked decrease in quality of life.

YESTERDAY

TODAY



### 2.

Radiographic examination revealed all existing teeth in upper jaw were previously endodontically treated, except for two canines. A thorough oral prophylaxis together with ozone treatment for better healing showed a reversal of gingival inflammation. Under local anesthetic and rubber dam placement all carious lesions were debrided and the old existing metal posts were then removed. The root canal spaces were thoroughly cleaned using ultrasonic activation and root canal disinfectants.



edelweiss POST Drill was then used to refine existing post spaces in preparation for the new edelweiss POST & CORE system. Following post try-in, the canal spaces were etched with 37 % phosphoric acid, rinsed thoroughly and dried with paper points and prepared for post cementation. The edelweiss POST together with the CORE forms a single monobloc thus simplifying the final preparation procedure. The ease at which the core can then be prepped and refined saves chair-side time.

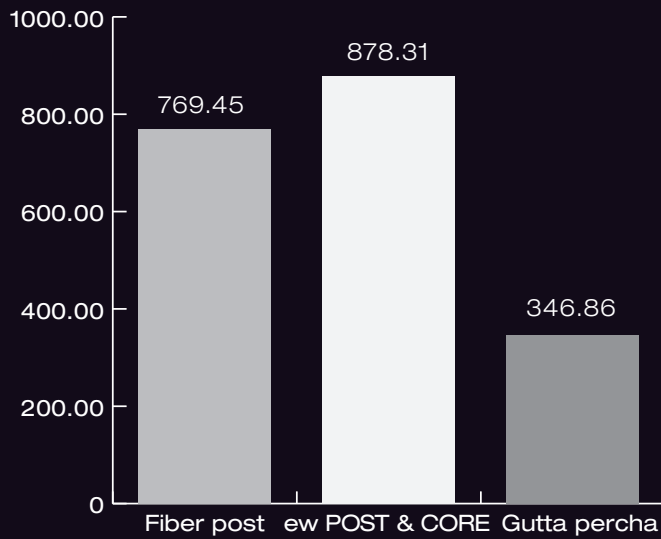


### 3.

The teeth together with the new edelweiss POST & CORE system is more stable and the patient is more confident. On completion of the treatment the patient says she can chew better. She says that her teeth feel more solid now and the possibility to eat anything that she likes is a great improvement. With the placement of the edelweiss VENEER and OCCLUSIONVD over the POST & CORE improved her esthetics dramatically. Overall she feels her quality of life has improved.

### COMPARISON OF MEAN FRACTURE RESISTANCE VALUES (N)

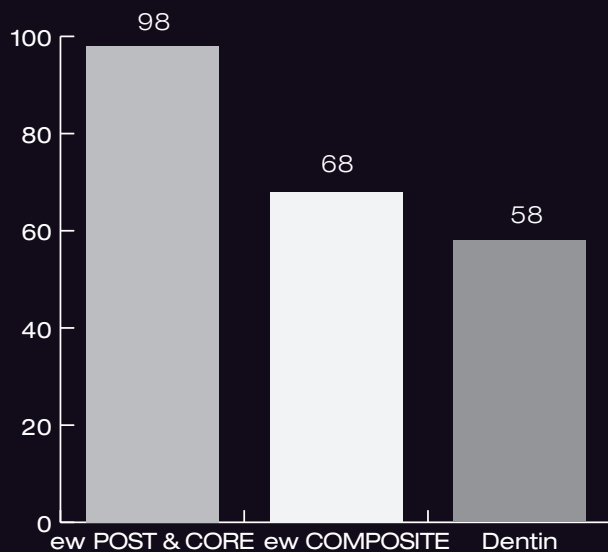
Drs. Ayesha Akhtar & Deepak Mehta, Rajiv Gandhi University, Bangalore, India



edelweiss POST & CORE showed the highest Fracture Resistance compared to the fiber post. The edelweiss POST & CORE system acts as a monobloc improving as physical properties.

### COMPARISON OF THE DEPTH OF CURE FROM CORONAL TO APICAL REGION OF THE POST (HV)

Dr. Jessica J. Sidharta (D.M.D., C.D.T.), Ulm, Germany

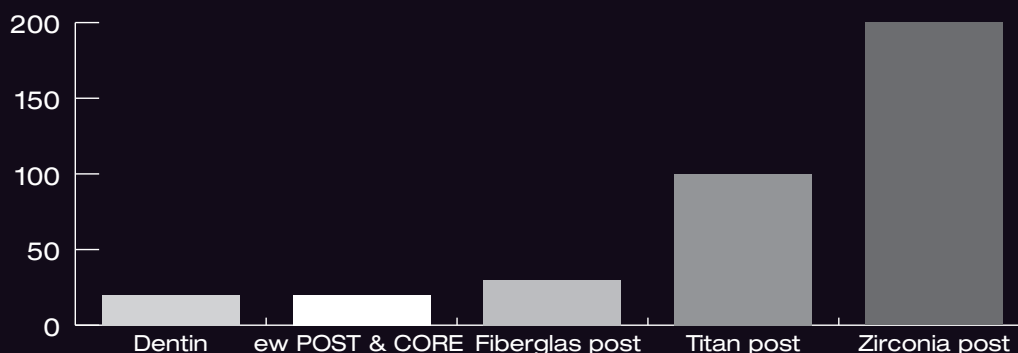


No significant difference ( $p < 0.05$ , ANOVA) occurred between the mean Vickers hardness values taken from coronal to apical portions of the root canal in 1 mm transverse sections.

Similar mean Vickers hardness test values along the longitudinal root sections from coronal to apical portion indicate complete polymerization of the post cement confirming complete transmission of light from the coronal part of the edelweiss post to the apical portion.

### COMPARISON OF FLEXURAL MODULUS OF VARIOUS POST SYSTEMS TO DENTIN (GPA)

Dr. Jessica J. Sidharta (D.M.D., C.D.T.), Ulm, Germany

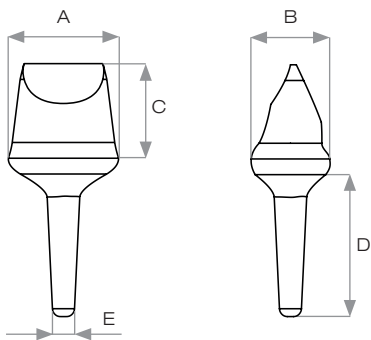


Mean Flexural modulus of different root posts compared to dentin.

edelweiss POST&CORE has similar stress-strain properties (flexural modulus) to that of root dentin.

# Technical Aspects & Designs

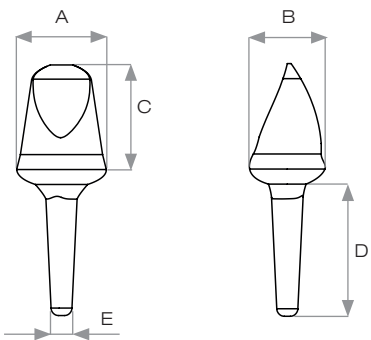
**POST & CORE**  
anterior upper



| Core Dimensions            | Small  | Medium |
|----------------------------|--------|--------|
| A Mesial - Distal          | 6.0 mm | 7.0 mm |
| B Palatal - Labial         | 4.0 mm | 5.0 mm |
| C Incisocervical dimension | 5.5 mm | 6.0 mm |

| Post Dimensions | Small  | Medium |
|-----------------|--------|--------|
| D Length        | 8.5 mm | 8.0 mm |
| E Diameter      | 1.0 mm | 1.4 mm |

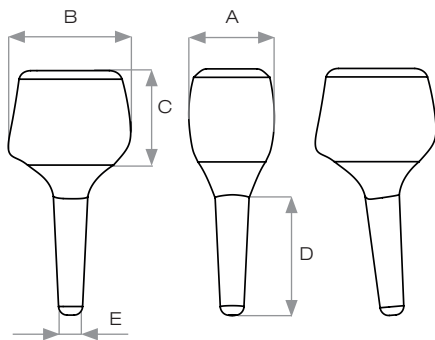
**POST & CORE**  
anterior lower



| Core Dimensions            | Small  | Medium |
|----------------------------|--------|--------|
| A Mesial - Distal          | 5.0 mm | 6.0 mm |
| B Palatal - Labial         | 4.0 mm | 5.0 mm |
| C Incisocervical dimension | 5.0 mm | 7.0 mm |

| Post Dimensions | Small  | Medium |
|-----------------|--------|--------|
| D Length        | 9.0 mm | 8.5 mm |
| E Diameter      | 1.0 mm | 1.4 mm |

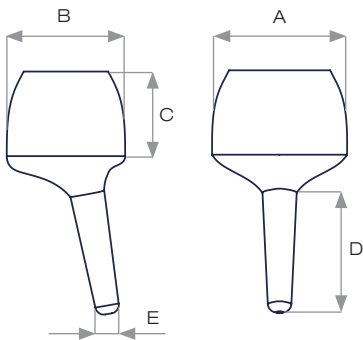
**POST & CORE**  
premolar upper/lower



| Core Dimensions            | Small  | Medium |
|----------------------------|--------|--------|
| A Mesial - Distal          | 4.0 mm | 5.0 mm |
| B Palatal - Labial         | 6.0 mm | 7.0 mm |
| C Incisocervical dimension | 4.5 mm | 5.5 mm |

| Post Dimensions | Small  | Medium |
|-----------------|--------|--------|
| D Length        | 8.0 mm | 7.5 mm |
| E Diameter      | 1.0 mm | 1.4 mm |

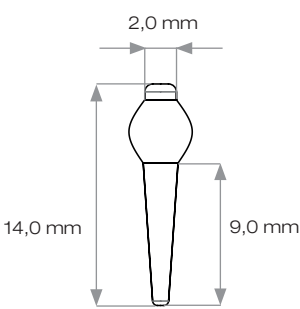
**POST & CORE**  
molar upper/lower



| Core Dimensions            | Small  | Medium |
|----------------------------|--------|--------|
| A Mesial - Distal          | 7.0 mm | 8.0 mm |
| B Palatal - Labial         | 6.0 mm | 7.0 mm |
| C Incisocervical dimension | 4.5 mm | 5.0 mm |

| Post Dimensions | Small  | Medium |
|-----------------|--------|--------|
| D Length        | 8.0 mm | 7.0 mm |
| E Diameter      | 1.0 mm | 1.4 mm |

**Universal Post**  
when tooth walls remaining



| Post Dimensions | Small  | Medium |
|-----------------|--------|--------|
| Length          | 9.0 mm | 9.0 mm |
| Diameter        | 1.0 mm | 1.4 mm |

**Translucent Post**  
& opaque Core



Translucent Post with opaque buildup in A1 shade for complete periapical light polymerisation and similarity with nature.

# Toolbox & Refills

## DIRECT SYSTEM POST & CORE

### REF 17000 edelweiss POST & CORE TOOLBOX



**Symbolic picture**  
All units listed below  
and accessories are  
included in the toolbox

### edelweiss POST & CORE REFILLS

|                          |                      |        |                  | LENGHT/DIAMETER |                  | LENGHT/DIAMETER |
|--------------------------|----------------------|--------|------------------|-----------------|------------------|-----------------|
| edelweiss POST & CORE    | Anterior S upper     | 2 pcs. | <b>REF 17001</b> | 8.5 mm / 1 mm   | <b>REF 17011</b> | 8.5 mm / 1.4 mm |
| edelweiss POST & CORE    | Anterior M upper     | 2 pcs. | <b>REF 17002</b> | 8.0 mm / 1 mm   | <b>REF 17012</b> | 8.0 mm / 1.4 mm |
| edelweiss POST & CORE    | Anterior S lower     | 2 pcs. | <b>REF 17003</b> | 9.0 mm / 1 mm   | <b>REF 17013</b> | 9.0 mm / 1.4 mm |
| edelweiss POST & CORE    | Anterior M lower     | 2 pcs. | <b>REF 17004</b> | 8.5 mm / 1 mm   | <b>REF 17014</b> | 8.5 mm / 1.4 mm |
| edelweiss POST & CORE    | Premolar S upper     | 2 pcs. | <b>REF 17005</b> | 8.0 mm / 1 mm   | <b>REF 17015</b> | 8.0 mm / 1.4 mm |
| edelweiss POST & CORE    | Premolar M upper     | 2 pcs. | <b>REF 17006</b> | 7.5 mm / 1 mm   | <b>REF 17016</b> | 7.5 mm / 1.4 mm |
| edelweiss POST & CORE    | Premolar S lower     | 2 pcs. | <b>REF 17007</b> | 8.0 mm / 1 mm   | <b>REF 17017</b> | 8.0 mm / 1.4 mm |
| edelweiss POST & CORE    | Premolar M lower     | 2 pcs. | <b>REF 17008</b> | 7.5 mm / 1 mm   | <b>REF 17018</b> | 7.5 mm / 1.4 mm |
| edelweiss POST & CORE    | Molar S upper/ lower | 2 pcs. | <b>REF 17009</b> | 8.0 mm / 1 mm   | <b>REF 17019</b> | 8.0 mm / 1.4 mm |
| edelweiss POST & CORE    | Molar M upper/ lower | 2 pcs. | <b>REF 17010</b> | 7.0 mm / 1 mm   | <b>REF 17020</b> | 7.0 mm / 1.4 mm |
| edelweiss Universal POST | upper / lower        | 5 pcs. | <b>REF 17021</b> | 9.0 mm / 1 mm   | <b>REF 17022</b> | 9.0 mm / 1.4 mm |

### NANO-HYBRID COMPOSITE FLOW

**REF 13770** Enamel Flowable 1.5 g Syringe

### BONDING

**REF 10521** VENEER Bond 5 ml Bottle

### ACCESSORIES

**REF 17023** POST space drill 1.0 mm  
**REF 17024** POST space drill 1.4 mm  
**REF 17025** Prep diamond  
**REF 10621** FLOW Application Tips (5 pcs.)  
**REF 817005** Instructions for use



edelweiss  
DENTISTRY

shaping the future of dentistry

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office@edelweissdentistry.com  
**www.edelweissdentistry.com**



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