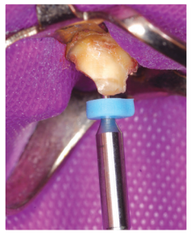
Clinical case

Dentistry and photography courtesy of: Dr. Alejandro Bertoldi Hepburn / Dr. Claudio Sumonte Hernàndez - Universidad del Desarrollo (Concepción, Chile)

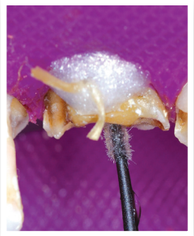

Starter Drill

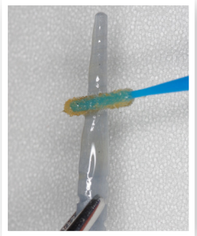

Finishing Drill


Oval space


Try in

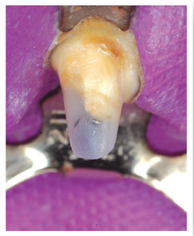

Etching


Priming and Light Curing

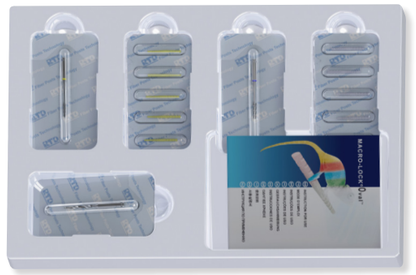

Priming and Light Curing


Cementation


Light Curing


Placing & Trimming Core

Presentations:



Intro kit A	
46900003	Content: 5 MACRO-LOCK®OVAL™Post size 1, 5 MACRO-LOCK®OVAL™ Post size 3, 2 starter drills (#1, #2), 2 finishing drills (size 1, size 3).

Intro kit B	
46900004	Content: 5 MACRO-LOCK®OVAL™ Post size 2, 5 MACRO-LOCK®OVAL™ Post size 4, 2 starter drills (#1, #2), 2 finishing drills (size 2, size 4).

POSTS		
46900501	Refill of 5 MACRO-LOCK®OVAL™POST # 1	●
46900502	Refill of 5 MACRO-LOCK®OVAL™ POST # 2	●
46900503	Refill of 5 MACRO-LOCK®OVAL™ POST # 3	●
46900504	Refill of 5 MACRO-LOCK®OVAL™ POST # 4	●

DRILLS		
4520119	1 Starter Drill # 2	
4520120	1 Starter Drill # 1	
4520121	1 Finishing Drill MACRO-LOCK® size 1	●
4520122	1 Finishing Drill MACRO-LOCK® size 2	●
4520123	1 Finishing Drill MACRO-LOCK® size 3	●
4520124	1 Finishing Drill MACRO-LOCK® size 4	●

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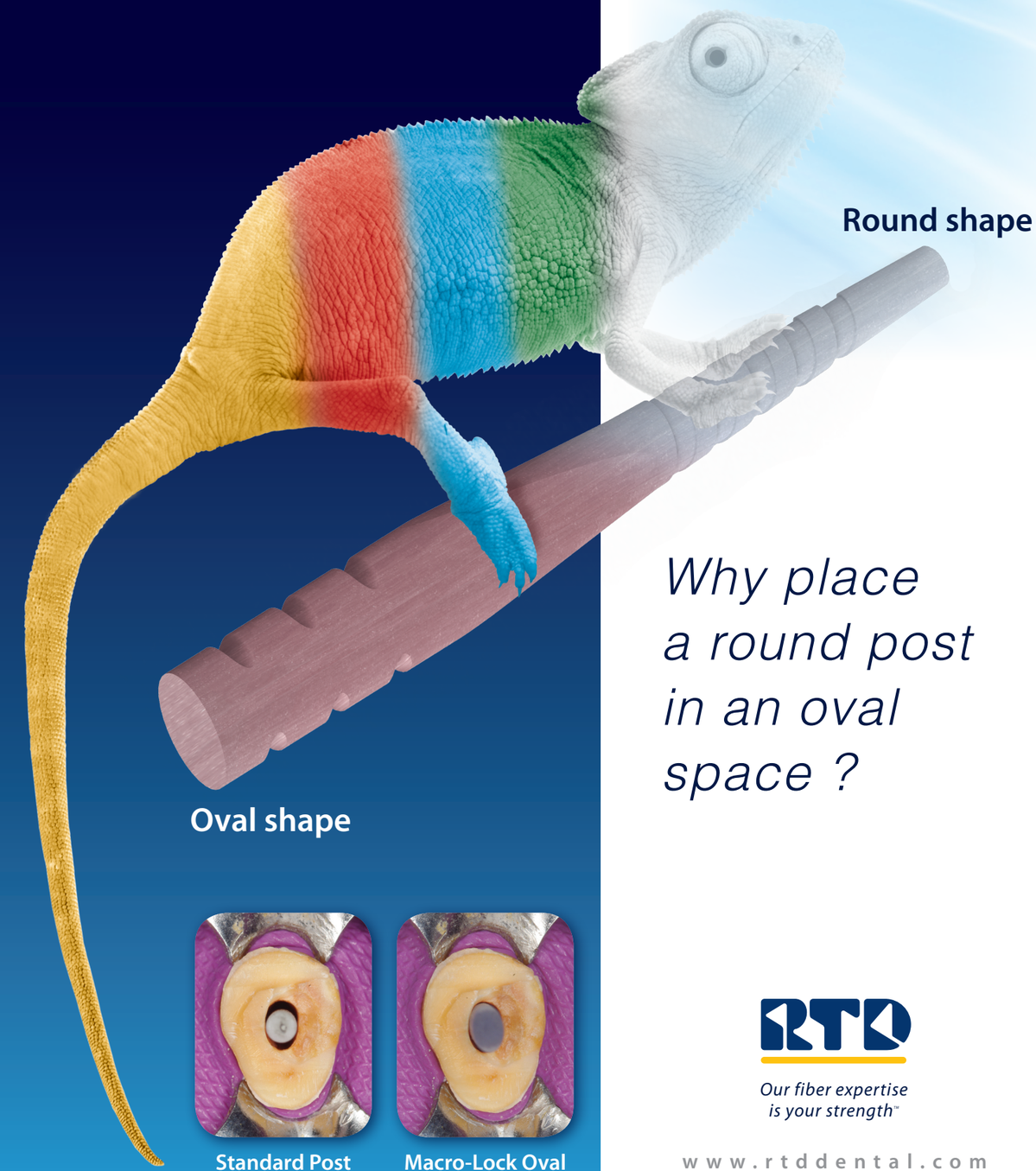
MACRO-LOCK® Oval

Round-Flared-Oval Fiber Post



Standard Post

Macro-Lock Oval

Why place a round post in an oval space ?

Our fiber expertise is your strength™

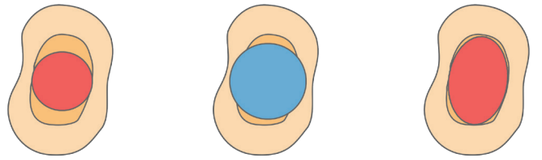
www.rtddental.com

A SUCCESSFUL PRODUCT WITH A REVOLUTIONARY NEW ANGLE

RTD announces a new “hybrid”post design for the restoration of wide, flared canals. Keeping the Illusion technology, advanced X-RO fiber, and the Macro-Lock drill system, the new Macro-Lock Oval simplifies these restorations: round and slightly tapered at the apical end, it flares profoundly and becomes oval.

Innovative, sophisticated new design

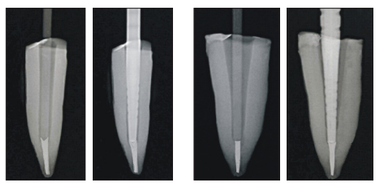
- Root canals are rarely round. Oval spaces are more common than round ones[1].
- Thorough treatment and re-treatment often leaves an over-prepared, compromised tooth with an ovoid and tapered space.
- Circular post systems are only effective in the most apical zone, because of considerable flare in the occlusal half.
- A parallel post will not be effective in an elliptical canal unless the canal is considerably enlarged[2].
- Adapting an oval space to accommodate a round post often requires the sacrifice of sound dentin tissue[3].
- Study data suggests that these restorations with accessory posts and non-circular (oval) fiber posts have a higher survival rate than round fiber posts[4].



Small Fiber Post | Large Fiber Post | OVAL Fiber Post

Extracted tooth comparing the “fit” of a round post and the Macro-Lock OVAL

From the facial aspect the posts are about the same. From the distal, they are remarkably different.



Usual view from the facial | View from the distal

References:

1. Weine, F. S. Endodontic Therapy, 4th Edition St Louis, Mosby, 1989

2. Rosenstiel, Land, Fujimoto. Contemporary Fixed Prosthodontics, 3rd Edition, July 2000. Yearbook Medical Publications. pg 279

3. Grande, , NM, Butti, AS., Plotino, G. et al adapting fiber reinforced composite root canal posts for use in the non circular shaped canals. Practical procedures and aesthetic dentistry, 2006; 18:593-9

4. Baldissara, P.,, V., Valandro, L.F. Arena, A., Scotti, R. Non-axial Loading of crowns supported by new fiber post systems. J Dent Res. Vol 89 (Spec. Iss. B) Abstract #2195, 2010 (www.dentalresearch.org)

5. Er, O., Kilic, K., Esim, E., Aslan, T. Ibrahim H., SahinYildirim, K. Stress distribution of oval and circular fiber posts in a mandibular premolar: a three- dimensional finite element analysis J AdvProsthodont 2013;5:434-9

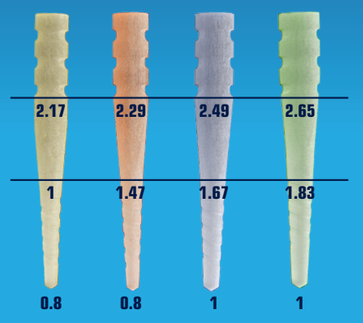
MACRO-LOCK Oval

The unique oval shape provides anti-rotation benefit, while replacing weaker cement with high strength fiber composite. Oval fiber posts are preferable to circular fiber posts in oval-shaped canals, given the stress distribution at the post - dentin interface.[5]

Macro retentive serrations interlock with the cement & core material to increase retention.

The additional bulk of fibers in this critical zone offers maximum strength and fracture resistance to help protect the tooth.

Passive grooves lock into the cement in the ROUND apical portion, which is a conservative 0.04 taper.



Diameters in millimeters

PATENTED X-RO* Fiber Technology for

Fig. 1
Radiopacity

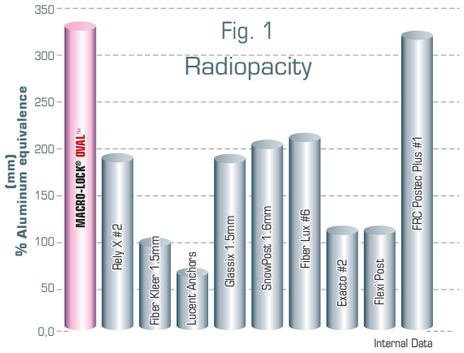
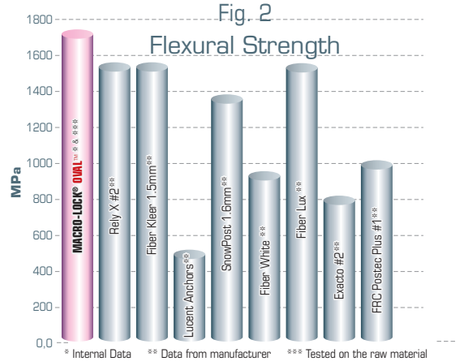
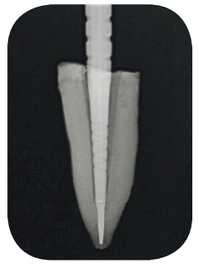


Fig. 2
Flexural Strength





Ultimate radiopacity

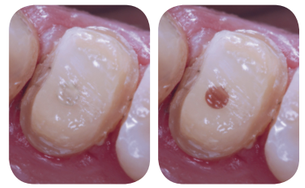
The exclusive, patented* X-RO fibers produced unsurpassed radiopacity (ISO 4049) (Fig. 1).

The highest strength

This exotic fiber improves flexural strength to 1800 - 2000 MPa (ISO 14125) and maintains high fatigue resistance, passing 10 million cycles. (Fig. 2)

PATENTED** ILLUSION Color-On-Command TECHNOLOGY

- Color-coding for easy identification; posts colors match the drills.
- Intrinsic color coding disappears when seated, re-appears on demand if removal ever becomes necessary.



Other benefits

- As always, the elastic modulus is close to dentin (15GPa @ 30°); producing no clinical root fractures.
- High translucency provides aesthetics, and expedites the dual cure cementation procedure.
- Corrosion-free and biocompatible, X-RO has passed the common test of cytotoxicity, but also intradermal reactivity, systemic toxicity, genotoxicity and hypersensitivity, in order to ensure complete biocompatibility and safety.
- Like all of our fiber posts, these are atraumatically removable in minutes

* X-RO patent N°US8298973 et EP 2 181 074

** Illusion patent N°US7726971 et EP 1 776 933