

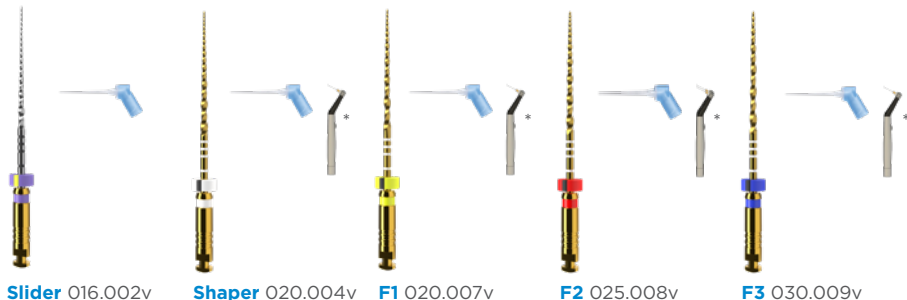
**MAILLEFER**

# ProTaper Ultimate™

Step-by-Step Guide

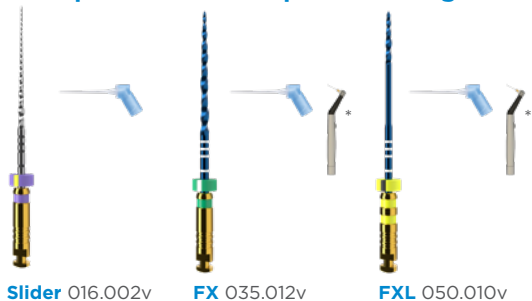
**Motor settings: 400 rpm / 4-5.2 Ncm**

## ProTaper Ultimate™ Sequence

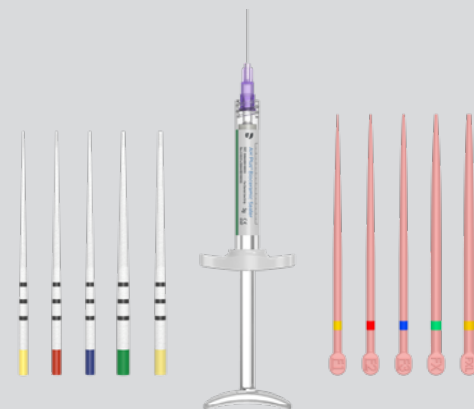


- Lubricants such as NaOCl, EDTA, ProLube, Glyde™ shall be used.
- The use of radiographs in combination with an apex locator and a tool for adjusting the silicone stopper to the correct working length is the appropriate method of working length determination.
- The ProTaper Ultimate™ instruments can be used with an outward brushing motion in all canals, especially those that exhibit an irregular cross-section, or with a light inward pecking motion to progressively advance toward the working length.
- Always cradle the handpiece in the webbing between the thumb and index finger. Avoid pushing; let the files passively progress and follow the Slidepath.

## ProTaper Ultimate™ sequence for larger and straighter canals only



\* SmartLite® Pro EndoActivator® coming soon



Select dedicated ProTaper Ultimate™ Absorbent Points to dry the root canals, AH Plus® Bioceramic Sealer to seal the canals and dedicated ProTaper Ultimate™ Conform Fit® Gutta-Percha Point corresponding to color code and size of the last instrument used during canal preparation.

## Accessories



Dedicated manual versions available for all sizes



**SX** 020.003v  
Orifice Opener

 **Dentsply  
Sirona**

## ProTaper Ultimate™ Step-by-Step procedure

- Review different horizontally angulated radiographs to diagnostically **determine the width, length, and curvature of any given root and its canal(s)**.
- Prepare an access that enables the **easy identification of each canal orifice**.
- The auxiliary shaping file, SX, may be used when there is **restrictive space**, to pre-enlarge the body of a canal, or to relocate the coronal-most aspect of a canal away from an external root concavity.
- In the presence of a lubricant, **select the Slider and PASSIVELY follow the canal**, in one or more passes, to its terminus. Determine working length (WL) using an **electronic apex locator in combination with a radiographic image**, then confirm patency.
- If the Slider doesn't easily reach the canal terminus, **select a small-sized manual Stainless Steel (SST) hand file**. In the presence of lubricant catheterize the canal, establish working length, confirm patency, and verify the Slidepath. Now, repeat step #4 above.
- Insert gently the **irrigation needle at the canal orifice**, start irrigating at the **coronal entry**. Bring the needle down into the canal while **irrigating abundantly until the coronal 2/3 of the canal is reached**. Irrigate in the canal with a continuous 2-3 mm back and forth movement. Irrigate with 1 to 2 ml of solution after each pass of instruments.
- In the presence of NaOCl, **select the Shaper and advance along the Slidepath**, in one or more passes, until the WL is reached.
- Upon removing the Shaper, **irrigate** as previously advocated in step #6, **EndoActivate to break up debris** and move it into solution, **then re-irrigate** to liberate this debris.
- Reconfirm WL, especially in curved canals.
- Select the **FINISHER F1 (020.007v)** and **passively follow the canal to the WL**, in one or more passes. Remove and inspect its apical flutes. **When loaded with dentinal debris, the preparation is finished**.
- If the **FINISHER F1 is loose at length and its apical flutes are not loaded with debris**, select the FINISHER F2 (025.008v) and use it in the same manner as described step #10 above.
- If the **FINISHER F2 is loose at length and its apical flutes are not loaded with debris**, select the FINISHER F3 (030.009v) and use it in the same manner as described step #10 above.
- Upon removing any given file, **clean and inspect its cutting flutes, irrigate** as previously advocated in step #6, **recapitulate** with either a size 10 file or EndoActivator to break up debris, then re-irrigate.
- Inspect the file's cutting flutes upon removal for the presence of unwinding, straightening or stretching. If deformation is noted, discard and use a new ProTaper Ultimate™ file.
- The preparation is finished when the **apical extent of any Finisher is loaded with debris**, and the corresponding Gutta-Percha Point fits at the WL.
- Once the preparation is finished, proceed with **3-D disinfection protocols with EndoActivator®**.
- Select dedicated **ProTaper Ultimate™ Absorbent points** (corresponding to color code and size of the last instrument used during canal preparation) to dry the root canals.
- Insert the **AH Plus® Bioceramic Sealer 24-gauge tip** no further than the **middle third of the root canal**. Inject the sealer until it is visible at the root canal orifice. Maintain the tip immersed in the sealer during injection to minimize the inclusion of voids.
- Insert a dedicated **ProTaper Ultimate™ Conform Fit® Gutta-Percha Point** (corresponding to color code and size of the last instrument used during canal preparation) into the root canal and **push it to the apical stop**. Avoid excessive pressure to minimize or prevent extrusion beyond the apical foramen.
- Cut and remove the coronal portion of the master cone at the root canal orifice. Compact the coronal portion of the cone with an appropriately sized and fitted plugger. Verify with radiographs.

### Use the auxiliary Finishers in larger and straighter canals only, such as maxillary central incisors, some palatal or distal canals of molars, or when there is a pathologic or iatrogenic defect

- Follow **steps #1 to #6** above.
- Select either a mechanically driven or manual auxiliary file, **FINISHER FX (035.012v)**, when working length is established and patency is confirmed. Passively follow the canal to the WL, in one or more passes. Remove and inspect its apical flutes. When loaded with dentinal debris, the preparation is finished.
- If the **FINISHER FX is loose at length and its apical flutes are not loaded with debris**, select either a mechanically-driven or manual auxiliary FINISHER FXL (050.010v) and use this file in the same manner described above for FINISHER FX.
- The preparation is finished when the **apical extent of any auxiliary Finisher is loaded with debris**, and the corresponding Gutta-Percha Point fits at the WL.
- Follow steps #16 to #20 above.

		EC REP	CE
Files	Maillefer Instruments Holding Sàrl, Chemin du Verger 3, CH-1338 Ballaigues, Switzerland	Dentsply DeTrey GmbH, De-Trey-Straße 1, D-78467, Konstanz, Germany	2797
Gutta-Percha & Absorbent Points	Dentsply Tulsa Dental Specialties, 608 Rolling Hills Drive, Johnson City, TN 37604, USA	Dentsply DeTrey GmbH, De-Trey-Straße 1, D-78467, Konstanz, Germany	2797
Irrigation Needle	Produits Dentaires SA, Rue des Bosquets 18, CH-1800, Vevey, Switzerland	PD Dental EU, 74200 Thonon-les-Bains, France	1639
AH Plus® Bioceramic Sealer	Maruchi, 2-208, Medical Industry Complex Bldg., 42-10, Taejanggongdan-gil, Wonju-si, Gangwon-do, KR-26311, South Korea	Biogeri, Am Pfeilshof 12, DE-22303 Hamburg, Germany	0197