

THE NEW NiTi FILE GENERATION

# HyFlex™ CM & EDM



Stays on track

 COLTENE

# HyFlex™ EDM

## Electrical Discharge Machining

The new HyFlex EDM files constitute the 5th generation root canal files. HyFlex EDM NiTi files have completely new properties due to their innovative manufacturing process using electric discharge machining. Workpieces are machined in the EDM manufacturing process by generating a potential between the workpiece and the tool. The sparks generated in this process cause the surface of the material to melt and evaporate.

This creates the unique surface of the new Niti files and makes the HyFlex EDM files stronger and more fracture resistant. This entirely unique combination of flexibility and fracture resistance makes it possible to reduce the number of files required for cleaning and shaping during root canal treatments without having to compromise preservation of the root canal anatomy.

Just like HyFlex CM files, HyFlex EDM files have the already familiar controlled memory effect (CM). This results in very similar properties in terms of material flexibility and regeneration.

- Up to **700%** higher fracture resistance
- Specially hardened surface
- Less filing required for treatment success

### SEQUENCE STEP BY STEP

#### ORIFICE OPENER

(optional)  
25 / .12

Glidepath File  
10 / .05

Preparation File  
20 / .05

**HyFlex™  
OneFile**  
25 / ~

#### FINISHING FILES

(optional)  
40 / .04  
50 / .03  
60 / .02

## Clinical Cases

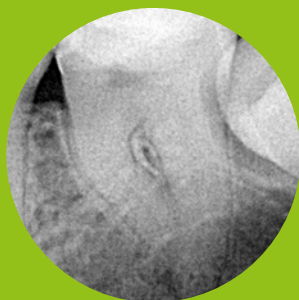
*„These files definitely know their way around curves.  
That’s for sure. I love them!”*

Dr. Antonis Chaniotis



*„I’m very happy to inform you that I have tried the HyFlex EDM to shaping some molars in vitro and in vivo (on patients) and I’m sure - it is incredible!”*

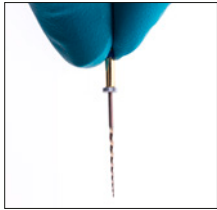
Dr. Eugenio Pedullà



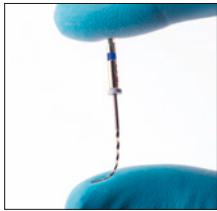
Source: Dr. Antonis Chaniotis

Source: Dr. Eugenio Pedullà

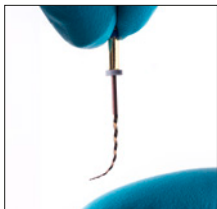
- High flexibility
- Extreme resistance to fracture
- Centred canal preparation



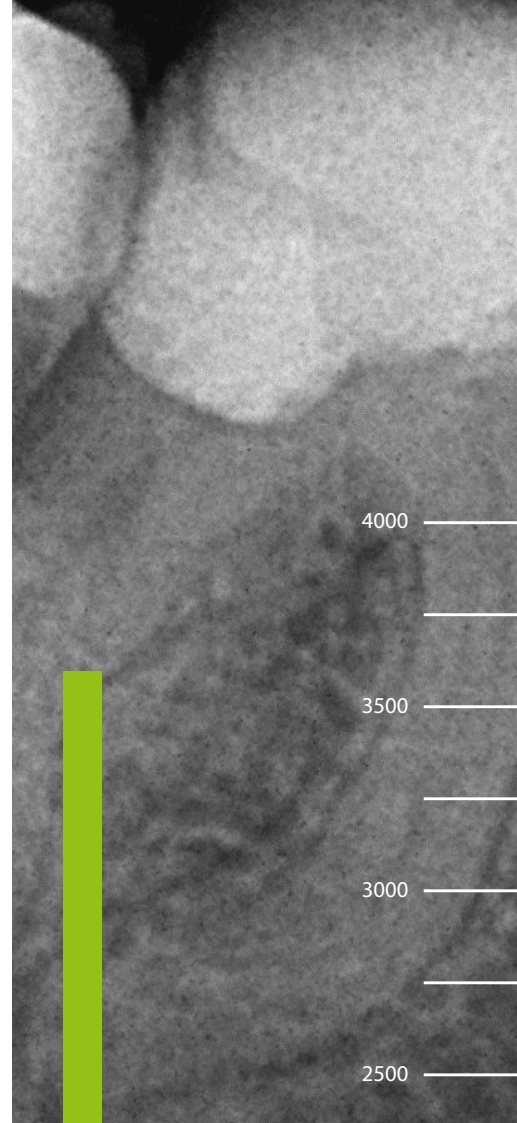
HyFlex files are manufactured utilising a unique process in which the crystallographic phase transitions from austenite to martensite at room temperature in contrast to conventional NiTi files, making the files extremely flexible and fracture resistant.



Due to the controlled memory, the files always follow the anatomy of the canal, thus significantly reducing the risk of ledging, transportation or perforation of a canal. Like stainless steel files, the HyFlex files can be pre-bent.



This is a crucial advantage in extremely curved root canals to avoid the creation of steps.



## Up to 700% higher fracture resistance

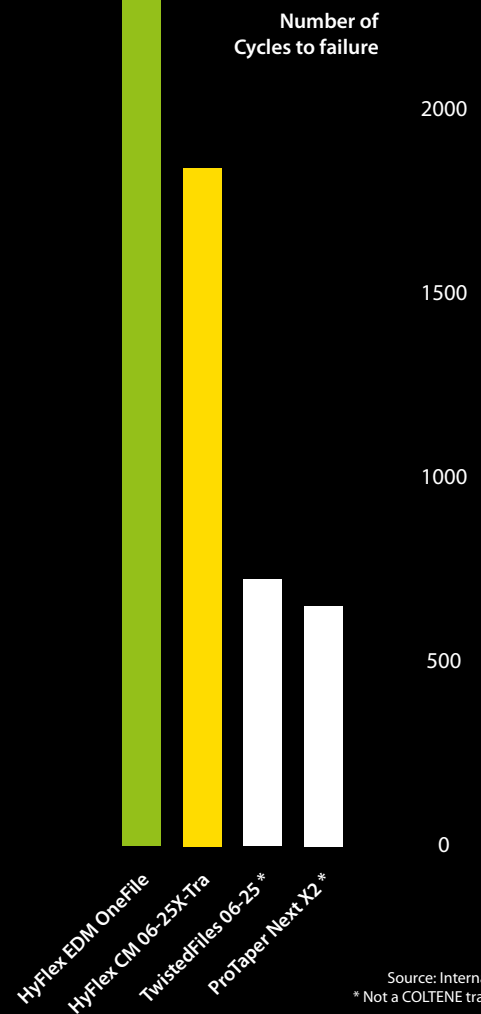
Tests have shown that HyFlex NiTi files are significantly more resistant to fatigue than conventional NiTi files. In the new HyFlex EDM NiTi files, this effect is further increased by 300-700%. The new EDM manufacturing process

results in another form fit and hardness of the surface of the file.

- Fracture resistance by visual inspection
- Regeneration by thermal treatment

HyFlex NiTi have a built-in shape memory. They prevent stress during preparation by changing their spiral shape. They regain their shape after heat treatment. A normal autoclaving process is enough to return the files to their original shape and to regenerate the crystal structures and resistance to fatigue.

Should the file fail to regain its shape after heat treatment, it is plastically deformed, thus increasing the risk of fracture. These files should not be used after visual inspection. The number of reuses, which can be determined by the user by visual inspection, is higher than that of conventional NiTi files.



Source: Internal tests /  
\* Not a COLTENE trademark

Optional  
Access Opening

Glidepath

Shaping

Optional Finishing

## HyFlex™ EDM Reduced Number of Files

Depending on the clinical situation, use of HyFlex EDM files reduces the number of files to 2-3 pieces particularly in straight and larger canals.

All HyFlex EDM NiTi Files can be used at 400 rpm and at a torque of up to 2.5 Ncm (25 mNm) excepted the Glidepath files which can be used with 300 rpm and at a torque of up to 1.8 Ncm (18 mNm).



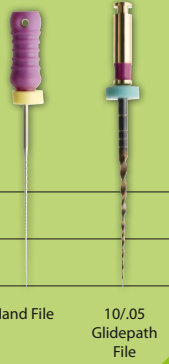
CORONAL

MIDDLE

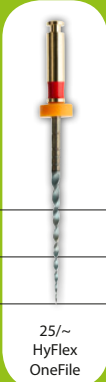
APICAL



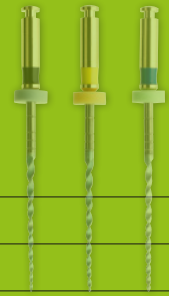
25/12  
Orifice  
Opener



Hand File  
10/05  
Glidepath  
File



25~  
HyFlex  
OneFile



40/04 50/03 60/02  
Finishing Files



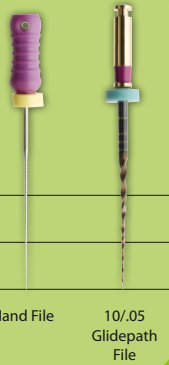
CORONAL

MIDDLE

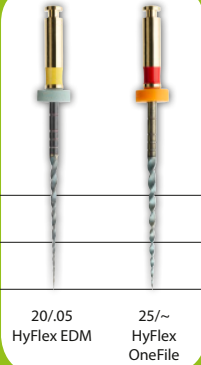
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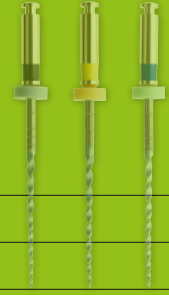
25/12  
Orifice  
Opener



Hand File  
10/05  
Glidepath  
File



20/05  
HyFlex EDM  
25~  
HyFlex  
OneFile



40/04 50/03 60/02  
Finishing Files



CORONAL

MIDDLE

APICAL



25/08  
HyFlex  
CM



Hand Files



20/04  
HyFlex  
CM



25/04  
HyFlex  
CM



20/06  
HyFlex  
CM



30/04  
HyFlex  
CM



40/04  
HyFlex  
CM

## HyFlex™ CM Single Length Technique

The single length technique, in which all files are used except the short Orifice Opener up to the working length, allows accurate and anatomically accurate preparation using HyFlex CM files.

Again, all files can be used except the Orifice Opener up to the working length (500 rpm; 2.5 Ncm (25 mNm)).

## Regeneration by thermal treatment



Before use



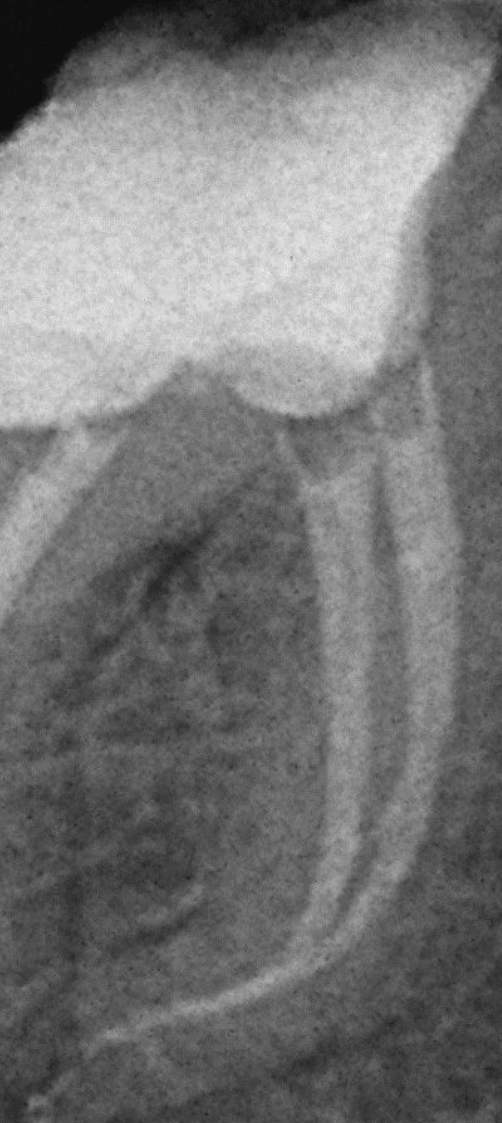
After heat treatment



After use



Untwisted (discard)



## HyFlex™ GPF Glide Path File



The HyFlex GPF ensure optimal shaping of the glide path due to the controlled memory. They are characterized by good durability and resistance to fracture.

Despite the extreme flexibility that allows the files to follow unusual anatomies, the HyFlex Glide Path Files are very easy to use and ensure safe treatment.

## HyFlex™ Introkit Compact



### HyFlex CM Introkit:

- 1 × HyFlex Organizer
- 1 × HyFlex CM NiTi File Refill Sequence 25 mm
- 1 × ROEKO Guttapercha Points Greater Taper 0.04, Assorted 20-45

### HyFlex EDM Introkit:

- 1 × HyFlex Organizer
- 1 × HyFlex EDM Shaping Set Simple + 40/.04 Finisher File
- 1 × ROEKO Guttapercha Points Greater Taper 0.04, Assorted 20-45

The HyFlex CM Introkit Compact is an optimal choice for starting a successful endodontic treatment. In this compact set, the reliable HyFlex CM Sequence is arranged for using the single length technique together with space-saving storage and guttapercha points tailored to the system. The set allows optimal access to the high-quality COLTENE ENDO product range. In a small starter set, the HyFlex EDM

Introkit Compact offers 4 file sizes with which treatments, particularly of straight canals, can be performed very simply to ISO size 40. Like all HyFlex NiTi files, the HyFlex EDM are presterilised and together with the small, practical HyFlex Organizer and dimensionally correct Greater Taper guttapercha points, treatment can be started immediately.

# HyFlex™

## NiTi Files & Accessories

PRESTERILIZED

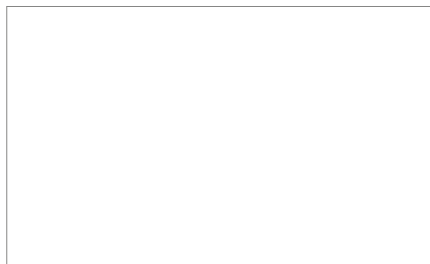


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HyFlex GPF Sequence				
Content	25 mm			
2 pcs 15/01; 2 pcs 15/02; 2 pcs 20/02	60018753			
HyFlex CM NiTi File Refills, 6 pcs				
Size / Taper	19 mm	21 mm	25 mm	31 mm
25/08	60011048			
15/04		60011049	60011065	60018284
20/04		60011050	60011066	60018285
25/04		60011052	60011067	60018286
30/04		60011053	60011068	60018287
35/04		60011054	60011069	
40/04		60011055	60011070	60018288
45/04		60011056	60011071	
50/04		60011057	60011072	60018289
60/04		60011058	60011073	60018290
20/06		60011059	60011074	60018291
25/06		60011060	60011075	
20/06, X-tra spirals		60018699	60018700	60018701
25/06, X-tra spirals		60018702	60018703	60018704
30/06		60011061	60011076	60018292
35/06		60011062	60011077	
40/06		60011063	60011078	60018293
HyFlex CM NiTi File Sequence Single length				
Content / Sizes	21 mm	25 mm	31 mm	
20/04; 25/04; 30/04; 40/04; 20/06; 25/08 19 mm	60011064	6001 1079	6001 8294	
HyFlex CM NiTi File Sequence Crown down				
Content / Sizes	21 mm	25 mm	31 mm	
S (25/08 19 mm; 35/04; 30/04; 25/04; 20/04; 15/04)	60018689	60018692	60018695	
M (25/08 19 mm; 60/04; 50/04; 45/04; 40/04; 35/04)	60018690	60018693	60018696	
L (25/08 19 mm; 40/06; 35/06; 30/06; 25/06; 20/06)	60018691	60018694	60018697	
HyFlex Introkits				
HyFlex CM Introkit Premium (2 pcs Organizer, 2 pcs 21 mm Sequence, 2 pcs 25 mm Sequence, ROEKO GP Greater Taper)				60019533
HyFlex CM Introkit Compact (Organizer, 25 mm Sequence, ROEKO GP Greater Taper)				60018786
HyFlex EDM Introkit Compact (Organizer, HyFlex EDM Shaping Set + 40/04 Finisher File, ROEKO GP Greater Taper)				60019660
Endo Highlight Kit				
1 x HyFlex EDM Shaping Set Simple (10/05, 25/~, 25/12); 1 x ROEKO GuttaFlow bioseal 2.5 ml; 1 x ROEKO Guttapercha Points HyFlex EDM OneFile 25				60022033
HyFlex EDM NiTi File Sequences				
Content / Sizes	21 mm	25 mm		
Shaping Set Simple 10/05; 25/~; 25/12 15 mm	60022267	60019363		
Shaping Set Medium 10/05; 20/05; 25/~	60022277	60022278		
Finishing Set 40/04; 50/03; 60/02	60022268	60019364		
HyFlex EDM NiTi File Refills, 3 pcs				
Size / Taper	15 mm	21 mm	25 mm	
25/12 Orifice Opener	60019596			
10/05 Glidepath File	60022269	60019594		
20/05 Preparation File	60022275	60022276		
25/~ HyFlex OneFile	60022270	60019595		
40/04 Finishing File	60022271	60019597		
50/03 Finishing File	60022272	60019598		
60/02 Finishing File	60022274	60019599		
HyFlex Accessories				
Item	Content			
Endo Procedure Block	1 pc 60011083			
Endo Organizer	1 pc 60018783			
Endo Practice Block Pack	3 acrylic blocks 60011085			
CanalPro Cordless Handpiece				
			EU	UK
CanalPro CL Complete Set (without Apex Locator connection) (Motor Handpiece, Charger, Contral Angle)	60011035			60011036
CanalPro CL Complete Set (with Apex Locator connection) (Motor Handpiece, Charger, Contral Angle AL)	60014050			
CanalPro CL2 Complete Set (Motor Handpiece, Charger, Contra Angle)	60019362			