

THE NEW NiTi FILE GENERATION

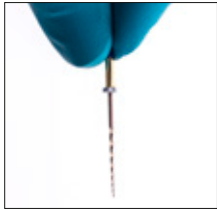
# HyFlex™



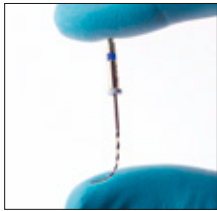
A miracle of flexibility and  
fracture resistance!

 COLTENE

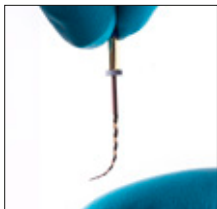
- High flexibility
- Extreme resistance to fracture
- Centred canal preparation



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

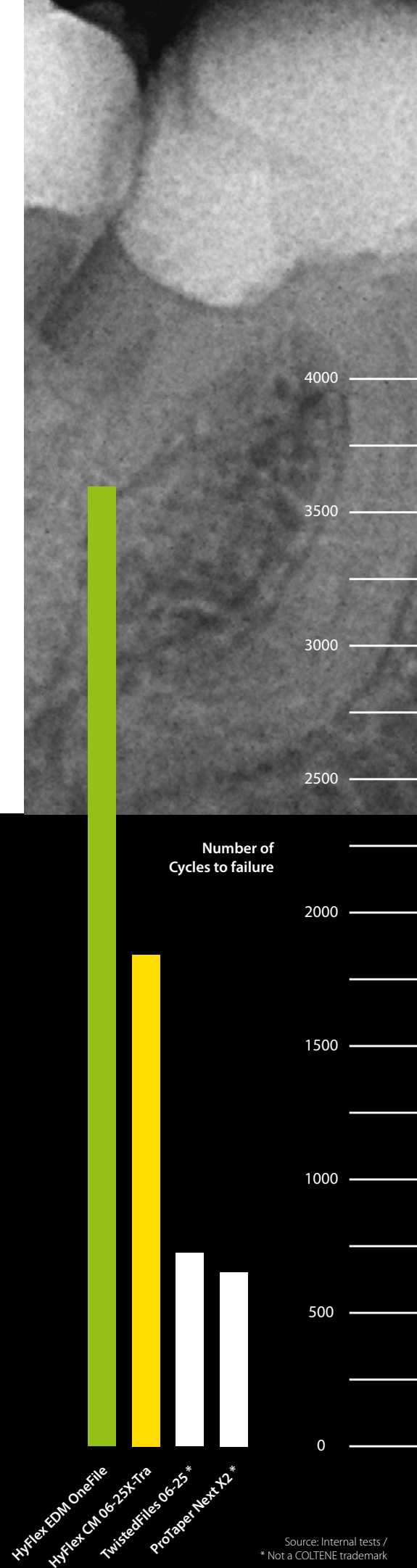
Tests have shown that HyFlex NiTi files are significantly more resistant to fatigue than conventional NiTi files. In the new HyFlex EDM NiTi files, this effect is further increased by 300-700%. The new

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



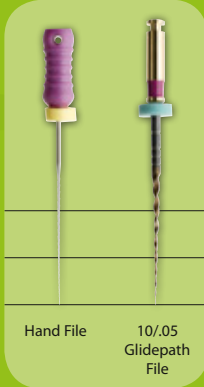
CORONAL  
MIDDLE  
APICAL

Optional  
Access Opening



25/.12  
Orifice  
Opener

Glidepath



Hand File  
10/.05  
Glidepath  
File

Shaping



25/~  
HyFlex  
OneFile

Optional Finishing



40/.04 50/.03 60/.02  
Finishing Files

## 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

Shaping



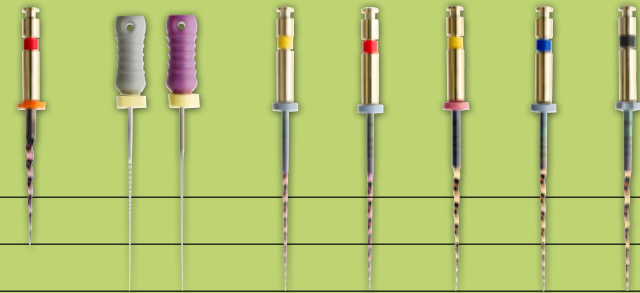
20/.04  
HyFlex CM  
25/~  
HyFlex  
OneFile

## HyFlex™ EDM / CM

For canals with medium curvature, a combination of HyFlex EDM and HyFlex CM files are recommended (500 rpm; 2.5 Ncm (25 mNm)).



CORONAL  
MIDDLE  
APICAL



25/.08  
HyFlex  
CM  
Handfiles  
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 25mm
- 1 × Roeko Guttapercha Points  
Greater Taper 0.04,  
Assorted 20-45

### HyFlex EDM Introkit:

- 1 × HyFlex Organizer
- 1 × HyFlex EDM Shaping Set  
+ 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 preformed 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™ 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

**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



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HyFlex GPF Sequence				
Content			25mm	
2 pcs 15/01; 2 pcs 15/02; 2 pcs 20/02			6001 8753	
HyFlex CM NiTi File Refills, 6 pcs				
Size / Taper	19mm	21mm	25mm	31mm
25/08	6001 1048			
15/04		6001 1049	6001 1065	6001 8284
20/04		6001 1050	6001 1066	6001 8285
25/04		6001 1052	6001 1067	6001 8286
30/04		6001 1053	6001 1068	6001 8287
35/04		6001 1054	6001 1069	
40/04		6001 1055	6001 1070	6001 8288
45/04		6001 1056	6001 1071	
50/04		6001 1057	6001 1072	6001 8289
60/04		6001 1058	6001 1073	6001 8290
20/06		6001 1059	6001 1074	6001 8291
25/06		6001 1060	6001 1075	
20/06, X-tra spirals		6001 8699	6001 8700	6001 8701
25/06, X-tra spirals		6001 8702	6001 8703	6001 8704
30/06		6001 1061	6001 1076	6001 8292
35/06		6001 1062	6001 1077	
40/06		6001 1063	6001 1078	6001 8293
HyFlex CM NiTi File Sequence Single length				
Content / Sizes		21mm	25mm	31mm
20/04; 25/04; 30/04; 40/04; 20/06; 25/08 19 mm		6001 1064	6001 1079	6001 8294
HyFlex CM NiTi File Sequence Crown down				
Content / Sizes		21mm	25mm	31mm
S (25/08 19mm; 35/04; 30/04; 25/04; 20/04; 15/04)		6001 8689	6001 8692	6001 8695
M (25/08 19mm; 60/04; 50/04; 45/04; 40/04; 35/04)		6001 8690	6001 8693	6001 8696
L (25/08 19 mm; 40/06; 35/06; 30/06; 25/06; 20/06)		6001 8691	6001 8694	6001 8697
HyFlex Introkits				
Item				
HyFlex CM Introkit Premium (2 Stk. Organizer, 2 Stk. 21mm Sequence, 2 Stk. 25mm Sequence, ROEKO GP Greater Taper)		6001 9533		
HyFlex CM Introkit Compact (Organizer, 25mm Sequence, roeko GP Greater Taper)		6001 8786		
HyFlex EDM Introkit Compact (Organizer, HyFlex EDM Shaping Set + 40/04 Finisher File, roeko GP Greater Taper)		6001 9660		
HyFlex EDM NiTi File Sequences				
Content / Sizes			25mm	
Shaping Set 10/05; 25/~; 25/12 15mm			6001 9363	
Finishing Set 40/04; 50/03; 60/02			6001 9364	
HyFlex EDM NiTi File Refills, 3 pcs				
Size / Taper	15 mm	25mm		
25/12 Orifice Opener	6001 9596			
10/05 Glide Path File		6001 9594		
25/~ HyFlex™ OneFile		6001 9595		
40/04 Finishing File		6001 9597		
50/03 Finishing File		6001 9598		
60/02 Finishing File		6001 9599		
HyFlex Accessories				
Item	Content			
Endo Procedure Book	1 pc			6001 1083
Endo Organizer	1 pc			6001 8783
Endo Practice Block Pack	3 acrylic blocks			6001 1085
CanalPro Cordless Handpiece				
			EU	UK
CanalPro CL Complete Set (without Apex Locator connection) (Motor Handpiece, Charger, Contral Angle)			6001 1035	6001 1036
CanalPro CL Complete Set (with Apex Locator connection) (Motor Handpiece, Charger, Contral Angle AL)			6001 4050	
CanalPro CL2 Complete Set (Motor Handpiece, Charger, Contra Angle)			6001 9362	