

NiTi Endodontic Products



R-Phase NiTi

The metallurgy is now softer but stronger !

Precision Dental Manufacturing Since 2000

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Company Profile

Smart Tech is a global enterprise specializing in research, manufacturing, and distribution of NiTi endodontic and orthodontic products. These include NiTi Rotary Endodontic Files, NiTi Pathfinding Hand Files, NiTi Irrigation Needles, NiTi Spiral Fillers, NiTi and SS Orthodontic Wires, NiTi Orthodontic Springs, Active and Passive Self-Ligating Brackets with NiTi Clips.

Smart Tech established in 2000, has been at the forefront of NiTi medical materials and dental instruments in research, manufacturing, and distribution for 26 years.

In China, Smart Tech has established 17,000 square meters of self-owned plants to ensure it can meet global demand.

As a National High-tech Enterprise, Smart Tech is a National medical industry standard drafting unit of three National Medical Industry Standards and holds 62 authorized patents, reflecting its leadership in NiTi medical device innovation. Our technical team, with expertise in NiTi materials and NiTi medical device research, collaborates across these facilities and builds a vertically integrated product chain, encompassing NiTi raw materials, NiTi medical device components, and diverse NiTi dental instruments, ensuring seamless innovation from concept to dental treatment. Smart Tech's products are CE marked and ISO 13485 certified.



Smart Tech currently owns 6,000 sq.m manufacturing plants in Jiangsu of China (actual photos).



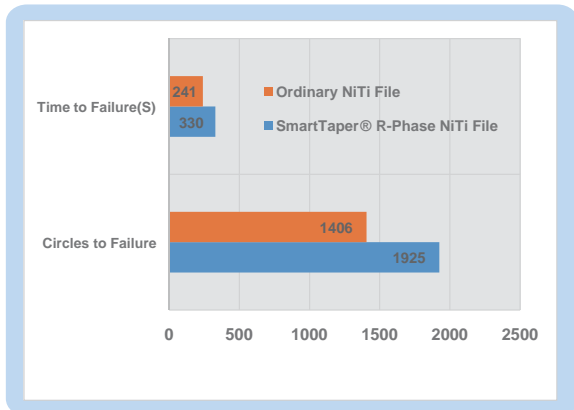
Smart Tech currently owns 11,000 sq.m manufacturing plants in Hubei of China (actual photos).

SmartTaper® NiTi Endodontic Files are Made of R-Phase NiTi Alloy

Compared with ordinary NiTi endodontic file, our unique R-Phase treatment technique significantly improves the fracture resistance by optimizing grain structure of nitinol alloy, the risk of file separation is remarkably reduced.

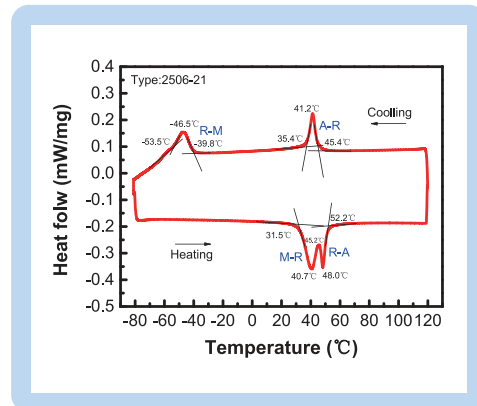
With outstanding compliance and bendability, the file can be preformed under room temperature easily, and it conforms much better to the accentuated curvatures of canals. The original root canal anatomy can be well preserved.

Technical Information

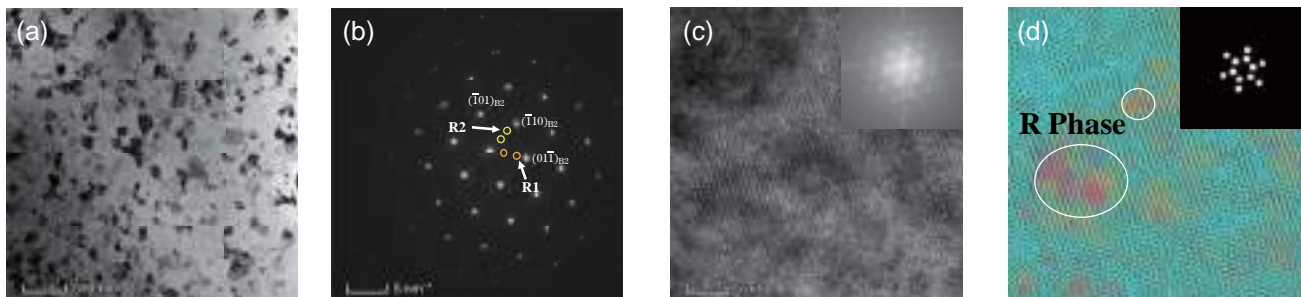


Cyclic Fatigue Test [1]

Source: In-house tests at 350 rpm



DSC Test [2]



Structural determination of SmartTaper® R-Phase NiTi file [3]

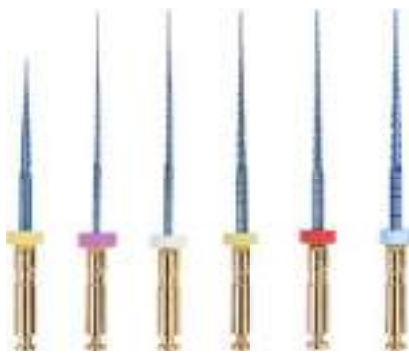
(a) BF image; (b) SAED image; (c) HRTEM image and the diffraction spots after Fourier transformation (inset in the upper right corner); (d) IFFT image after selecting the R phase spots in Figure (c)

[1]-[3] Tested by Smart Tech, not by any third party.

SmartTaper® Asymmetric NiTi Endodontic Files

-
- R Phase NiTi **Resistant to Fatigue**
 - Pure asymmetric cross-section **reduces locking risk**
 - **Variable taper design**
-

Concentric asymmetric cross-section!



Primary cutting edges

- For excellent cutting efficiency.

Subsidiary cutting edges

- Less constrained.
- Provides enough space for the suspension of debris, and allows debris to be transported coronally.

- **SX, S1, S2, F1, F2, F3**
- Material: R Phase NiTi
- Design: Blue-Finished (pre-bendable)
- Length: 21, 25, 31mm (Opener 19mm)
- Packaging: 6/pack (mixed sizes or uniform units)

Product Features

Clinically optimized Nitinol root canal preparation system with balanced flexibility and cutting efficiency.

SmartTaper® Asymmetric

SmartTaper[®] Gold NiTi Endodontic Files

-
- R Phase NiTi **Resistant to Fatigue**
 - **Triangular Convex** Cross-section
 - Enhanced **Flexibility** & Improved **Control**
-



- **SX, S1, S2, F1, F2, F3**
- Material: R Phase NiTi
- Design: Gold-Finished (pre-bendable)
- Length: 21, 25, 31mm (Opener 19mm)
- Packaging: 6/pack (mixed sizes or uniform units)

Product Features

The system featuring a distinctive gold-colored surface treatment, is engineered with advanced metallurgy to deliver exceptional clinical performance. This technology significantly enhances file flexibility while providing notably improved resistance to cyclic fatigue, making procedures safer and more reliable.

SmartTaper[®] Gold

SmartTaper® Blue NiTi Endodontic Files

-
- R Phase NiTi **Resistant to Fatigue**
 - **Triangular Convex** Cross-section
 - Excellent **Compatibility** & Predictable **Effects**
-



- **SX, S1, S2, F1, F2, F3**
- Material: R Phase NiTi
- Design: Blue-Finished (pre-bendable)
- Length: 21, 25, 31mm (Opener 19mm)
- Packaging: 6/pack (mixed sizes or uniform units)

Product Features

The system features superior flexibility and strong cyclic fatigue resistance, enabling efficient and safe cutting with precise root canal shaping. It features excellent compatibility and delivers predictable 3D cleaning and filling effects for root canal systems.

SmartTaper® Blue

SmartTaper® Metallic NiTi Endodontic Files

-
- R Phase NiTi **Resistant to Fatigue**
 - **Triangular Convex** Cross-section
 - Soft Files **Optimized Cutting Efficiency**
-



- **SX, S1, S2, F1, F2, F3**
- Material: R Phase NiTi
- Design: Metal-Finished (pre-bendable)
- Length: 21, 25, 31mm (Opener 19mm)
- Packaging: 6/pack (mixed sizes or uniform units)

Product Features

The system achieves a perfect balance between exceptional flexibility and high cutting efficiency for root canal therapy. It minimizes the screwing-in effect and the risk of locking, while maintaining optimal cutting efficiency for precise shaping.

SmartTaper® Metallic

SmartTaper® NiTi Pathfinding Hand Files

-
- R Phase NiTi **Resistant to Fatigue**
 - **High-Efficiency** Root Canal Negotiation and Cutting Performance
 - **Pre-bendable Design**
-

Pre-bendable NiTi pathfinding file for hand use, enabling tactile perception of root canal rebound for more controllable canal negotiation.



**Rival Stainless Steel,
Surpass Stainless Steel !**

- Model: 06#, 08#, 10#
- Length: 19, 21, 25, 28, 31mm
- Packaging: 6/pack (uniform units)

SmartTaper® NiTi Spiral Fillers

-
- R Phase NiTi **Resistant to Fatigue**
 - **Resistant to Fracture and Unwinding**
 - **Reduce the Risk of Underfilling**
-

Minimal oscillation to ensure precise delivery of viscous sealer. Less underfilling for enhanced clinical reliability.



**Rival Stainless Steel,
Surpass Stainless Steel !**

- Model: 25#, 30#, 35#, 40#
- Length: 21,25mm
- Packaging: 4/pack (uniform units)

SideIrri® NiTi Irrigation Needle Series

Unique Innovative Design

- SIDEPORT SPOUT DESIGN
- Large-angle spray
- NO cutting on tube wall
- " Ski-jump take off " flushing
- Solution pours off like a water column

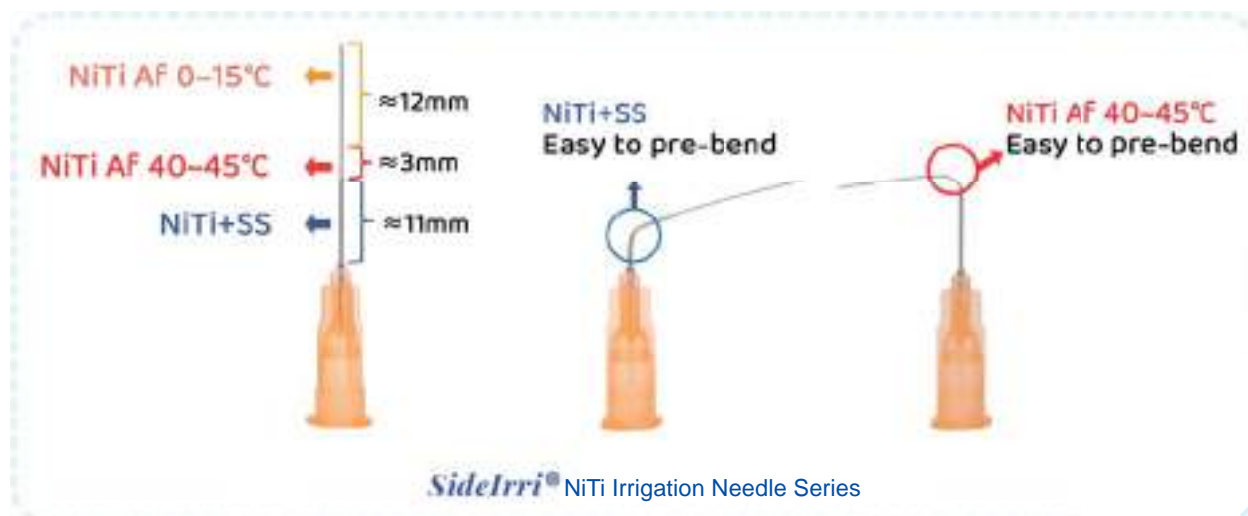


SideIrri® NiTi Irrigation Needle with sideport spout design, large-angle spray, **no cutting** on tube wall. [1]



SS Irrigation Needle from other vendors [2]

[1] ~ [2] Tested by Smart Tech, not by any third party.



WhatsApp contact

