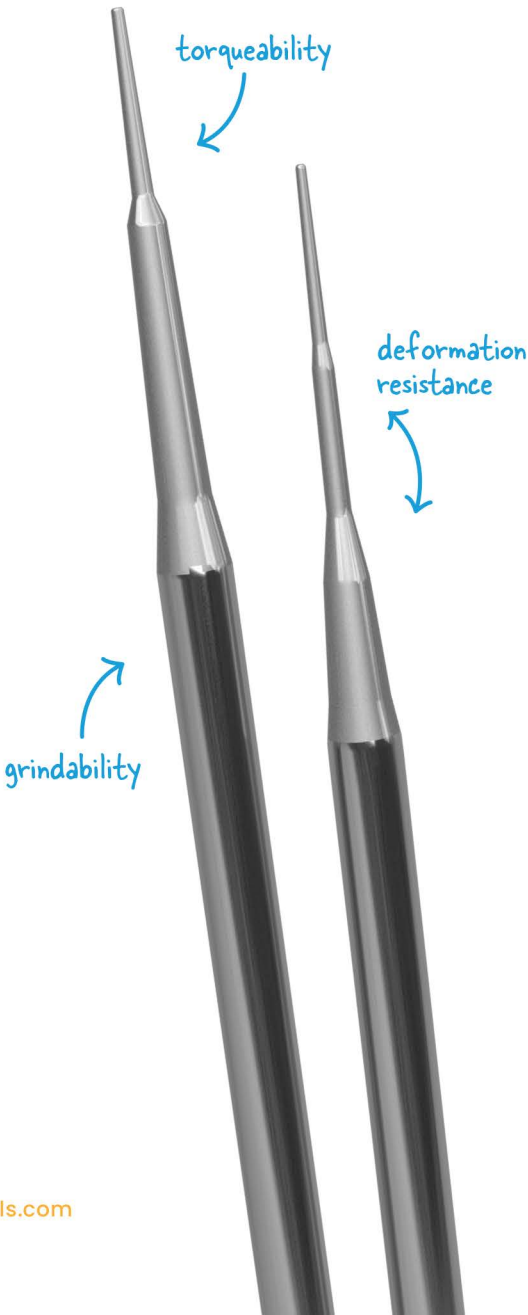




# SLT<sup>®</sup> wire comparison study

Material performance test results



# SLT® wire comparison study

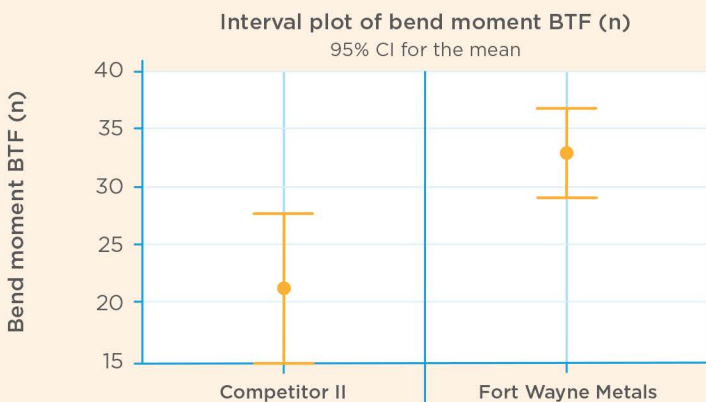
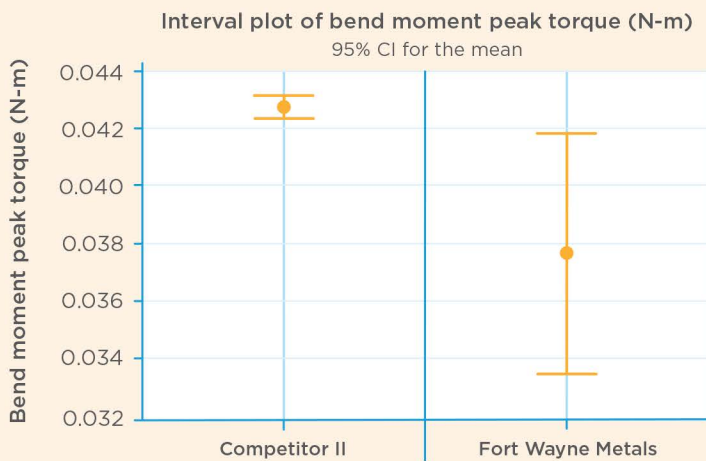
At the request of customers, Fort Wayne Metals conducted an extensive comparison test of its SLT® wire against two competitors that both produce rotary straight and cut wire material. SLT® wire is a premium, straightened wire, engineered specifically to reduce production steps in your operation. The comparison study tests included both SLT® wire Type 3 and Type 4; wire from competitor I was spring condition and wire from competitor II was hyten condition.

The objective of the study was to measure the material performance of the samples. In full disclosure, employees of Fort Wayne Metals performed the tests on our campus, but they did not know the source of the materials.

## Testing results

**Bend moment testing summary:** No significant difference in peak torque.

### 0.4318 mm [0.017 in] bend moment testing: Hyten condition



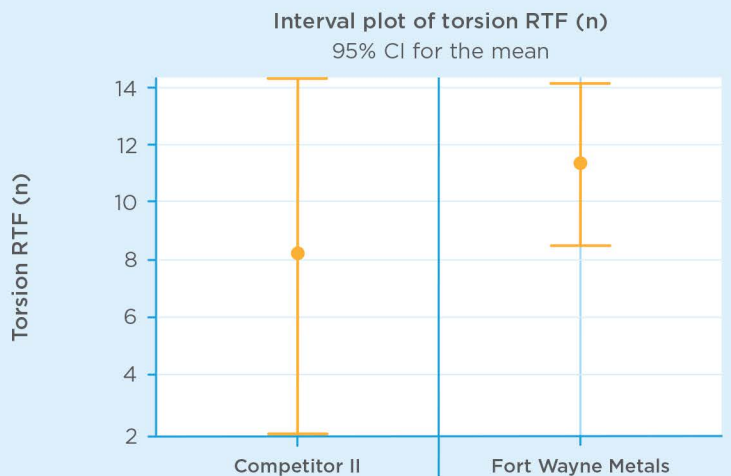
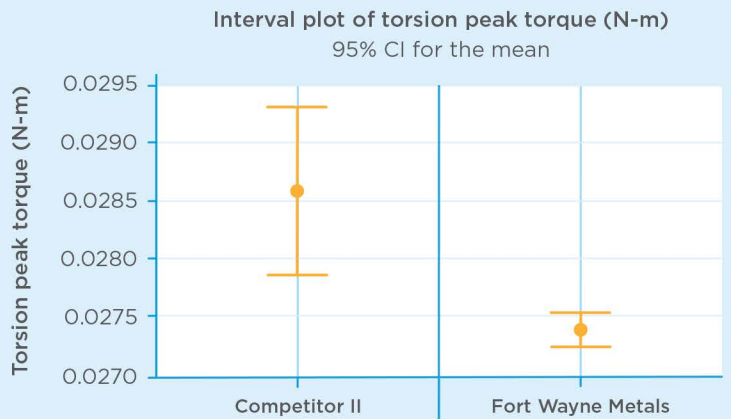
Individual standard deviations are used to calculate the intervals.  
Project: Comparison Data SLT Torsion and Bend Moment Runs.mpx; Worksheet: Metlab Data

**Dynamic cast summary:** SLT® wire on average is 2x more resistant to deformation than the competitors.

Wire Size & Condition	Competitor I	Fort Wayne Metals
0.3302 mm [0.013 in] Spring condition		
Cast measurement	25.4 mm [1.0000 in]	16.93418 mm [0.6667 in]
0.4318 mm [0.017 in] Spring condition		
Cast measurement	28.97124 mm [1.1406 in]	18.65376 mm [0.7344 in]
0.3302 mm [0.013 in] Hyten condition		
Cast measurement	17.85874 mm [0.7031 in]	8.73252 mm [0.3438 in]
0.4318 mm [0.017 in] Hyten condition		
Cast measurement	20.6375 mm [0.8125 in]	13.49502 mm [0.5313 in]

**Torsion test summary:** No significant difference; similar results for all size and condition comparisons.

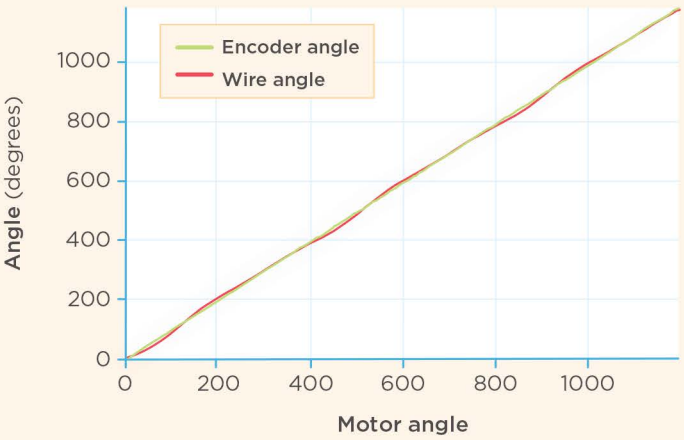
### 0.4318 mm [0.017 in] torsion testing: Hyten condition



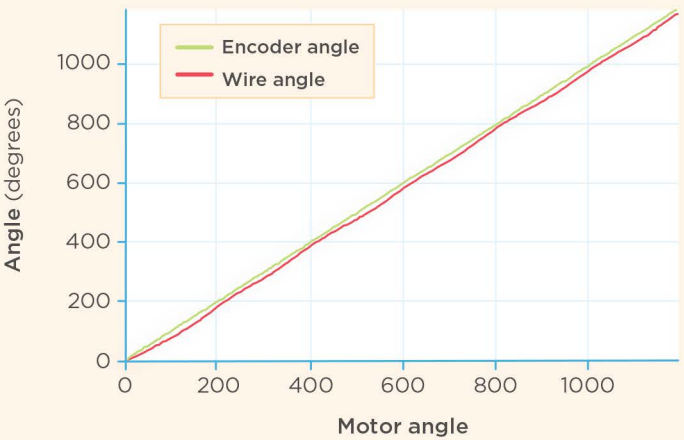
Individual standard deviations are used to calculate the intervals.  
Project: Comparison Data SLT Torsion and Bend Moment Runs.mpx; Worksheet: Metlab Data

Whip/tortuous path test summary: SLT® wire showed 10x better results.

**Tortuous path: 0.4318 mm [0.017 in] Hyten - Fort Wayne Metals**



**Tortuous path: 0.4318 mm [0.017 in] Hyten - Competitor II**



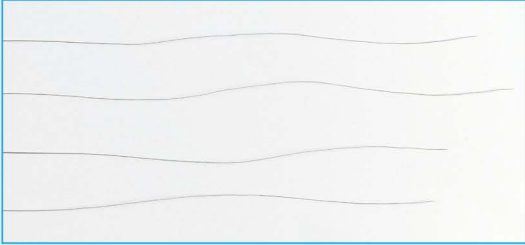
Waviness measurements summary: Competitors tended to have slightly better results due to the different processing styles. However, the difference is marginal, and all wires are considered straight per ASTM F2819 standard.

0.3302 mm [0.013 in] Spring condition	Competitor I	Fort Wayne Metals
Waviness	0.01016 mm [0.0004 in]	0.04826 mm [0.0019 in]
0.4318 mm [0.017 in] Spring condition	Competitor I	Fort Wayne Metals
Waviness	0.0127 mm [0.0005 in]	0.02286 mm [0.0009 in]
0.3302 mm [0.013 in] Hyten condition	Competitor II	Fort Wayne Metals
Waviness	0.04318 mm [0.0017 in]	0.02286 mm [0.0009 in]
0.4318 mm [0.017 in] Hyten condition	Competitor II	Fort Wayne Metals
Waviness	0.01016 mm [0.0004 in]	0.0381 mm [0.0015 in]

## Testing results concluded

**Grind profile summary:** SLT® wire hyten condition was superior. Spring condition for all processing methods (SLT® wire and rotary) showed relatively similar grinding results.

### 0.4318 mm [0.017 in] Hyten condition - Competitor II



### 0.4318 mm [0.017 in] Hyten condition - Fort Wayne Metals



## Summary of results

The results for the following mechanicals, tensile strength, yield strength, and elongation, were quite similar among SLT® wire and the two competitive materials. Further tests, including waviness and bend moment, again showed similar results among the three.

However, in three of the tests, grindability, torqueability, and deformation resistance, SLT® wire performed much better than the other two, as you'll see in the results. Torqueability, particularly 1:1, is critical when medical professionals are using guidewire to navigate vasculature. Secondly, unlike competitive materials, SLT® wire does not have to undergo a heat treatment before the grinding process, saving you time and money.





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