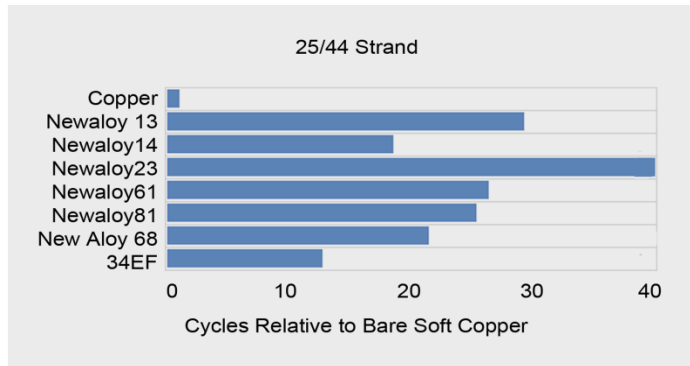


## Flex Life of Alloys and Strands

Two major factors affecting the flex life of a cable are the conductor material and the conductor stranding. High tensile strength alloys are shown to exhibit longer flex life. Strand construction has an effect on the overall flexibility of a conductor or cable. Higher flexibility (achieved by finer stranding) leads to longer flex life. Extensive testing conducted by New England Wire Corporation has identified these relationships between conductor materials, stranding, and flex life.

The following graph displays the results of experimentation on uninsulated conductors made of different materials. The tests were performed on NEWTC's programmable flex testing equipment in accordance with our standard operating procedure for flex life testing based on ASTM B470-95.

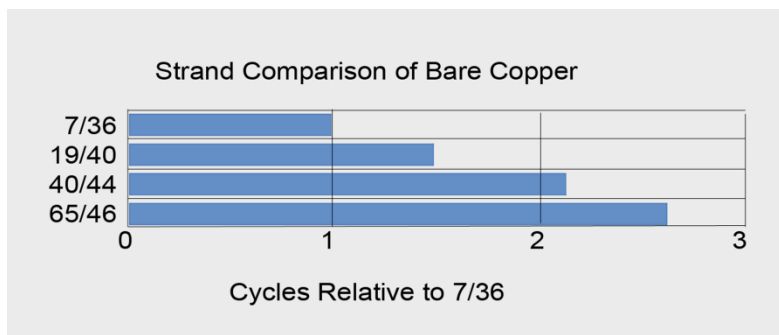


### Tensile Strength of Copper & Copper Alloys

Conductor Material	Tensile (psi)
Bare Soft Copper	35,000
NEWAlloy 14 RoHS	55,000
NEWAlloy 81 (heat treated)	60,000
NEWAlloy 61 (hard)	85,000
NEWAlloy 13 (hard) RoHS	90,000
NEWAlloy 23 (hard) RoHS	90,000

The data above shows the superior flex life performance of our high-strength alloys as compared to that of standard copper.

The graph below displays the flex life performance of four different strand constructions, all classified as 28 AWG constructions.



### Stranded Conductor Data

Stranding	Single Wire Diameter	Stranded Diameter
65/46	.00157	.0146
40/44	.0020	.0146
19/40	.0031	.0156
7/36	.0050	.0150

This graph illustrates that constructions utilizing finer strands have superior flex life performance than constructions with heavier strands.

As the flex life of a conductor or strand is often an important factor in cable design, this information should serve as a useful guide in the selection of the conductor material and construction to be used.