

# COMPARISON OF THREADS

## Cut Threads

Sharp cuts, with nicks and gouges, weaken threads. They are stress risers, which will lead to surface initiated fatigue failures.

The following are macro photographs of cut threaded bars. Clearly seen, are the tooling marks or "chatter" marks.

## Rolled Threads

Grain structure is maintained in continuous unbroken lines, following contours and increasing tensile and shear strength. (similar to a custom forged part)

The following are macro photographs of roll-threaded bars. Smooth contours are free of the nicks and gouges that contribute to fatigue failure.

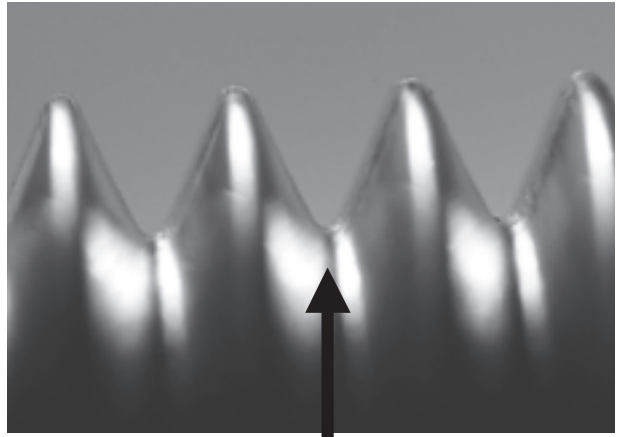
### UN-RETOUCHED PHOTOS

#### Commercial Grade "Machined" Threaded Bar



TOOLING MARKS

#### Sheffield™ "Roll Threaded" Stud Stock



CONTINUOUS LINES



SURFACE FLAWS



SMOOTH SURFACE