**THREAD MANUFACTURING METHOD**

### ROLLED THREAD
Roll thread is a process by which steel is extruded to form the threaded portion of a fastener, instead of being removed as in cut thread. Rolled thread is manufactured from a reduced diameter round bar. For example, a 1" diameter bolt is manufactured from .912" diameter round. General purpose hex head bolts, foundation bolts & all-thread are usually rolled thread.

### CUT THREAD
Cut thread is a process by which steel is cut away, or physically removed, from a round bar of steel to form the threads. A 1" diameter bolt, for example, is produced by cutting threads into a full 1" diameter body. Labor charges are more expensive than rolled threading. The shank is stronger on a cut thread bolt due to the larger diameter & is sometimes specified for foundation bolts (Hex Head, Hook & L type).

---

**THREAD PITCH TYPE**

### NATIONAL COARSE THREAD
The screw thread of common use, also known as the USS (United States Standard).

### NATIONAL FINE THREAD
Fine threads are those with smaller pitch, also known as SAE (Society of Automotive Engineers).

### ACME THREAD
Known as a “Power” thread, acme threads are broader & squarer than standard "V" shaped threads. They provide quick threading & are stronger than standard "V" shaped threads. Common use is for machinery adjustment screws & jacks.

### COIL THREAD
Broad & loose fitting, these coil shaped threads virtually eliminate nut jamming problems common with standard "V" shaped threads. Coil threads have a shallow thread depth that prevents debris from getting caught in the threads. Even hardened concrete can be removed with just a few strikes to the rod. Coil threads also feature faster nut travel, making them excellent for construction jobs that require quick assembly and disassembly.

---

**THREAD MANUFACTURING QUALITY STANDARD**

### THREAD CLASS 1A & 1B
The loosest fit thread type used mainly for ease of assembly and disassembly such as general purpose hex head cap screws.

### THREAD CLASS 2A & 2B
Specified for machine screws & used mainly for automotive or aerospace applications.

### THREAD CLASS 2AG
High temperature applications where the thread is coated with lubricant.

### THREAD CLASS 2G, 2C, 3G & 3C
Acme thread specifications.

### THREAD CLASS 3A & 3B
Precision applications for snug fit.

---

**ASTM-F1554 (NEW SPECIFICATION FOR CONCRETE FOUNDATION ANCHOR)**

In August 2007, A307 was replaced with F1554 …for concrete foundation anchors only (All-Thread, Bent “L” & Headed). F1554 & A307 = the same mild steel except the spec for F1554 has an additional test for “Reduction of Area” & “Elongation” “Reduction of Area” must = 23% Minimum. / “Elongation” must = 23% Minimum. ASTM-A36 Round Hot Rolled has a chance of meeting all the requirements of F1554 GR36. Look at MTR (Mill can recertify for “Reduction of Area” if it is not on the MTR…we just have to call. A307 still covers low carbon steel bolts & all-thread & currently consists of GR-A & GR-B. A307 GR-A are bolts & all-thread for general use: A307 GR-B covers heavy hex bolts & studs for cast iron flanges. F1554 now covers all types of mild steel concrete foundation anchor bolts: cut all-thread, bent “L” type & headed bolts. B7 is not an acceptable substitution. There are three grades of ASTM-F1554. / All three grades can be Hot-Dip-Galvanized. F1554 GR-36 is weldable. / F1554 GR-55 is weldable if Supplementary Welding Requirement “S1” is met. F1554 GR-105 is not weldable. Weld heat alters the properties of medium carbon & alloy quenched & tempered material. All Metals Supply can special order 10’ & 12’ long all-thread, bent bolts & headed bolts that meets the F1554 specification. All Metals Supply is going to eventually switch our all-thread to meet F1554 & A307 & A36.