

## ***Knurled Fittings Are For Hand-Tightening***

A **knurled** metal surface is impressed with ridges or serrations which provide a rough surface that aids in gripping. A knurled cap or fitting should only be tightened by hand. Tools should not be used on a knurled surface.

**Knurled port caps on a vacuum pump should only be tightened by hand. DO NOT use tools to tighten a knurled port cap.** Using tools on a knurled port cap may over tighten the cap and damage the cap or gasket, creating a leak. Additional damage may occur with severe over-tightening, where connected fittings are broken free of their vacuum-tight seal.

Apply a small drop of vacuum oil, vacuum grease, or blue nylog to threaded fittings. **Be careful NOT to clog the fittings with the sealing agent.** Inspect the condition of the fitting seals before tightening to ensure there is no leakage. Blue nylog is vacuum-rated and should be used in vacuum applications.

***Service Tip: Do NOT use tools on knurled caps, knurled swivel female flare hose fittings, or other items with knurled surfaces. A knurled surface implies that an item should be tightened by hand and may be damaged if tools are used on it.***

### **INCORRECT:**



*Using tools on a knurled surface could damage the item **and may cause leaks.***



### **CORRECT:**



*Always hand-tighten caps, fittings, and other items with knurled surfaces.*

