THREDFLOER APPLICATION DATA

MATERIAL TO BE TAPPED

Cold Form Tap use begins with an evaluation of the metal to be tapped. If you see a stringy chip while machining, then the material is an excellent Thredfloer candidate. If you see a very fine powdery chip, then the metal may be too brittle to be cold form tapped. Examples of proven Thredfloer applications include all materials listed in the "Suggested Treatments" chart below.

Steels and stainless steels applications: The ability to cold form steel and stainless steel successfully and with good tap life is related to the material hardness, tap size and thread pitch, and tap lubrication. In general, use the following guidelines for tapping feasibility and refer to the surface treatment/lubrication selector for the correct tap specification.

HARDNESS	SIZE/PITCH RESTRICTION
16 Rc and Softer	1" and Smaller: 8 pitch and finer. Up to 1-1/2" / 10 pitch and finer.
17 - 23 Rc	1" and smaller: 10 pitch and finer
24 -35 Rc	Machine screw size and miniature taps only
30 - 35 Rc	with extreme care may work for miniature and small machine screw threads with 56 more threads per inch.

SUGGESTED TREATMENTS FOR THREDFLOER APPLICATIONS

MATERIAL	SUGGESTED TREATMENTS	
	BEST	GOOD
Wrought Aluminum	Chrome or Bal-Plus	Bright Finish
Diecast Aluminum	Bal-Plus or TiCN	Nitride, TiN
Copper	Balwear or TiN	Bright Finish
Mild Steel	TiN or TiCN	Nitride
300 Stainless Steel	Super TiN	Nitride/Steam Oxide
High Carbon Steel	Nitride/Steam Oxide or TiCN	Nitride/Steam Oxide
Leaded Steel	TiCN	Nitride/Steam Oxide
Diecast Zinc	Chrome Plate	Bright Finish
Titanium	Nitride/Steam Oxide	Nitride/Steam Oxide
400 Stainless Steel	Nitride/Steam Oxide	Nitride/Steam Oxide

LUBRICATION

Cold forming taps create threads using a progressive cold working process that requires lubrication. Cutting oils are generally preferred because of their lubricity compared to water soluble coolants.

Non-ferrous materials: Water soluble coolants may be used, but at increased concentrations of 5:1 to 10:1 for added lubricity. Water soluble drawing oils may work because of their lubricity.

Steels and stainless steels: A high sulfur/high chlorine content tapping oil with fat additive is recommended. A cutting oil with an "EP" or extreme pressure rated additive may also be satisfactory. In general, when tapping steels or stainless steels, a maximum "EP" rating for the tapping oil is desired.

Note that titanium nitride or super titanium nitride surface treatments may allow forming taps to work successfully in softer steels and stainless steels in conjunction with water soluble coolants possessing good lubricity characteristics.