JARVIS
CUTTING TOOLS

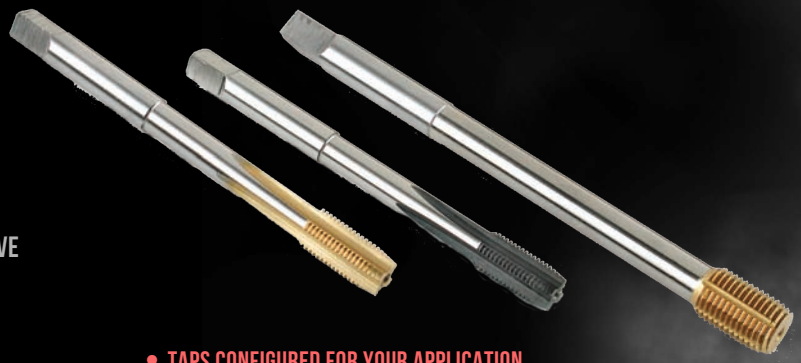
FORGINGS

WHETHER TAPPING ALUMINUM, POWDERED METAL, CAST IRON, COMPACTED GRAPHITE OR STEEL FORGINGS, JARVIS TAPS HAVE PROVEN MORE COST EFFECTIVE THAN THE COMPETITION.

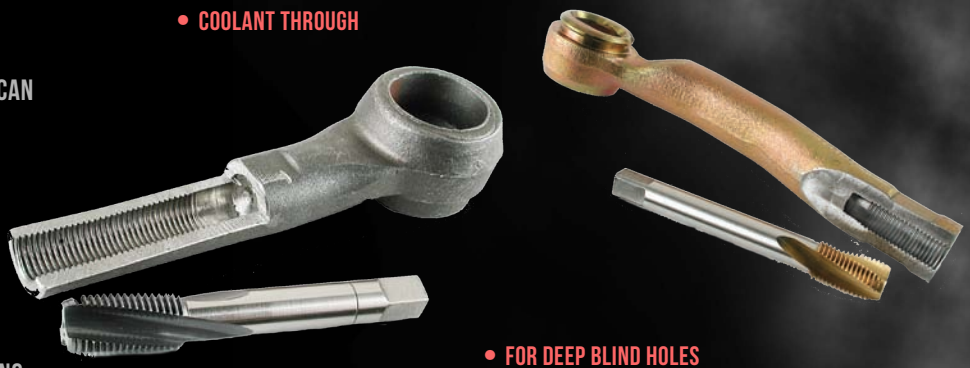
JARVIS PRODUCES TAPS FOR

- THREADING CRANKSHAFTS
- CONNECTING RODS
- CAMSHAFTS
- ENGINE BLOCKS AND HEADS

TO MAXIMIZE PRODUCTION, CUTTING OR FORMING TAPS CAN BE DESIGNED FROM PREMIUM STEELS WITH RADIAL AND COOLANT THROUGH CAPABILITIES.



- TAPS CONFIGURED FOR YOUR APPLICATION
- BLIND HOLE WITH MINIMAL CLEARANCE
- FORMING AND CUTTING TAPS
- COOLANT THROUGH



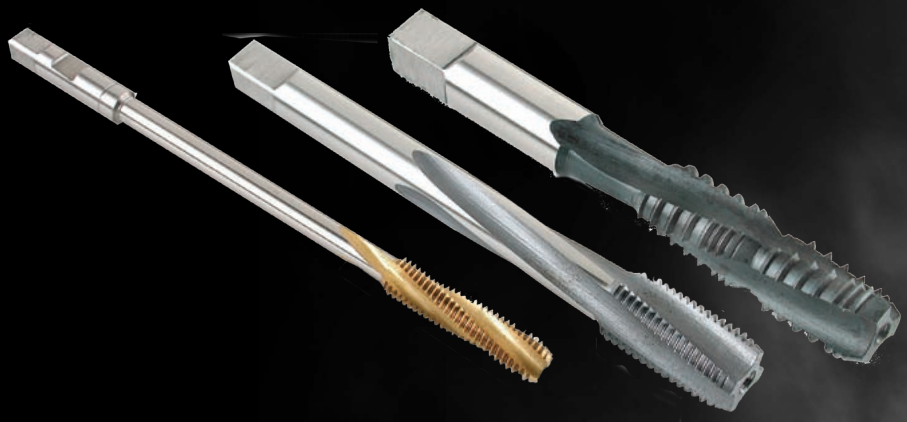
CHIP REMOVAL

EQUALLY TROUBLESOME, IS CHIP REMOVAL WHEN TAPPING DEEP BLIND HOLES. JARVIS HAS CREATED DIFFERENT SOLUTIONS EACH OF WHICH DOUBLED TOOL LIFE.

AN M14 X 1.5 FORMING TAP WITH COOLANT THROUGH MADE 4,000 HOLES PER TAP IN AUTOMOTIVE TIE ROD ENDS; THE COMPETITION COULD ONLY MANAGE 2,000 HOLES.

IF A CUTTING TAP IS REQUIRED, A JARVIS TAP WITH SPECIAL GEOMETRY AND COOLANT THROUGH OUTPERFORMED THE COMPETITION, 1,900 HOLES TO 1,000.

- FOR DEEP BLIND HOLES
- FORM TAPS (JARFLOS) - NO CHIPS
- SPIRAL FLUTES TO FACILITATE CHIP EVALUATION



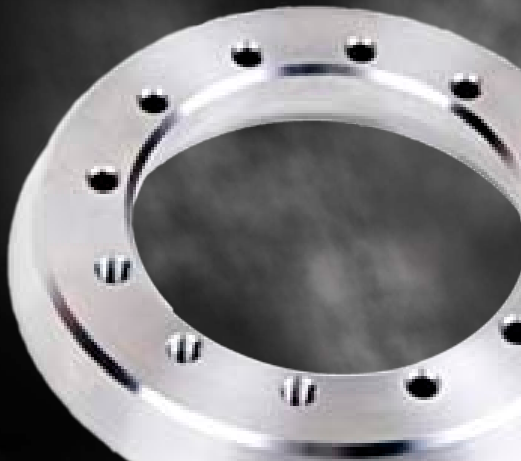
BLIND HOLES

TAPPING SHALLOW BLIND HOLES WITH MINIMAL CLEARANCE ARE PARTICULARLY CHALLENGING.

FOR EXAMPLE, JARVIS TAPS ARE SUCCESSFULLY THREADING RING GEARS WHICH CAN ALSO HAVE LEFT HAND THREADS.

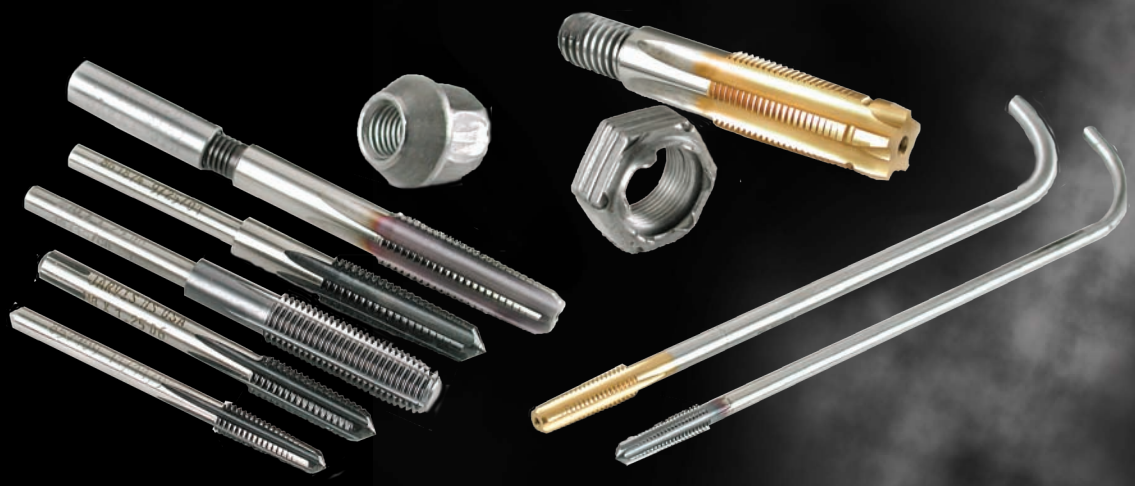
WHEN TOOL LIFE AND THREAD QUALITY ARE ESSENTIAL, INNOVATIVE DESIGNS MAKE JARVIS THE UNQUESTIONED SOURCE FOR COST SAVINGS OPPORTUNITIES.

- SHALLOW, BLIND HOLE APPLICATIONS
- COOLANT THROUGH
- TAP GEOMETRY TO RESIST PREMATURE WEAR



FASTENERS

FASTENERS FOR AUTOMOTIVE, AEROSPACE AND GENERAL PURPOSE APPLICATIONS ALL DEMAND CONSISTENT HIGH QUALITY THREADS. AND SINCE FASTENER MANUFACTURERS OPERATE WITH VERY CLOSE PROFIT MARGINS, THE TAPS USED MUST BE COST EFFECTIVE BY GENERATING LONG TOOL LIFE AT THE LOWEST POSSIBLE COST. JARVIS PRODUCES TAPS FOR THESE PRODUCTION APPLICATIONS.



- DESIGNED FOR A VARIETY OF MATERIALS
- OPTIMAL DESIGNS FOR LONG TOOL LIFE
- CONSISTENT HIGH QUALITY THREADS
- FORMED OR CUT THREADS

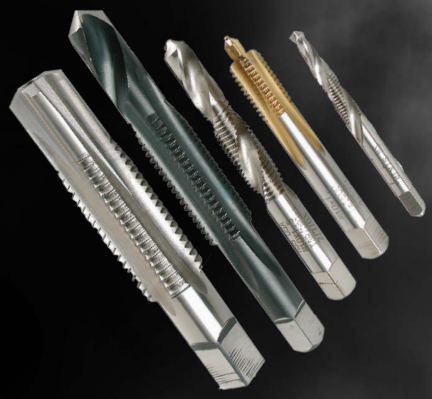
NUT TAPS

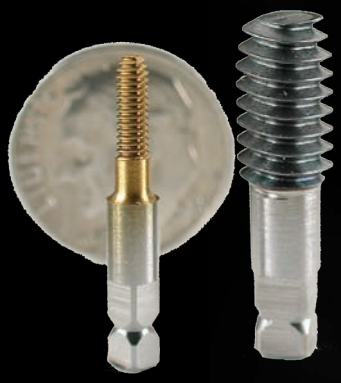
JARVIS WILL MAKE THE TAP AND BENT SHANK COMPLETE, COUPLINGS FOR THREADED SHANKS, OR JUST THE NIB TAP.

COMBINATION TAPS

COMBINATION TAPS CAN REDUCE COSTS BY DOING MULTIPLE OPERATIONS IN ONE PASS. JARVIS OFFERS COMBINATION TAP DRILLS, WITH SELF-CENTERING POINTS, OFF THE SHELF. TAP AND REAMER COMBINATIONS CAN ALSO BE MANUFACTURED. PILOTED TAPS GROUND TO CLOSE TOLERANCES ARE BUILT TO MEET YOUR REQUIREMENTS.

- TWO OPERATIONS ON EACH TOOL
- GROUND WITH CLOSE TOLERANCES
- MADE TO REDUCE PRODUCTION COSTS

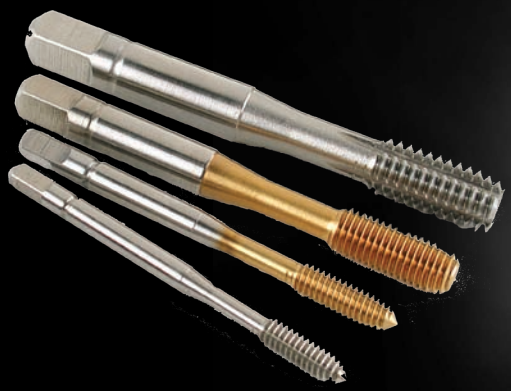




HIGH SPEED IN-DIE AND IN-LINE TAPPING

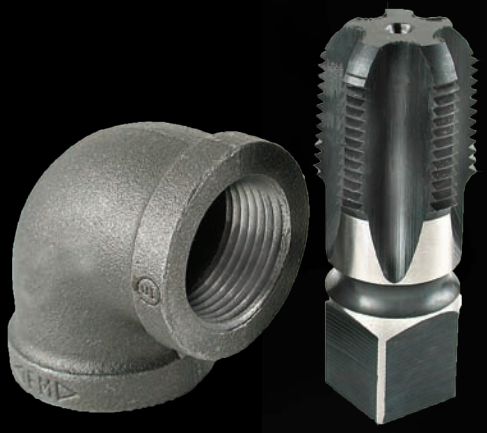
HIGH SPEED IN-LINE AND IN-DIE TAPPING OPERATIONS DEMAND PRECISION. WHEN TAPPING 200 HOLES PER MINUTE, QUALITY TAPS FROM JARVIS ARE ESSENTIAL. JARVIS' LINE OF STUB LENGTH AND STANDARD LENGTH FORMING TAPS FOR THESE APPLICATIONS ARE UNMATCHED IN THE INDUSTRY WHEN IT COMES TO COMPARING COST AND PERFORMANCE.

- OPTIMAL DESIGNS FOR HIGH SPEED TAPPING
- STUB OR STANDARD LENGTHS
- FORMED THREADS



CAST IRON PIPE FITTINGS

WHEN AN INTERNATIONAL MANUFACTURER OF CAST IRON PIPE FITTINGS NEEDED TO REDUCE THE COST PER PART TO REMAIN COMPETITIVE, JARVIS SUPPLIED THE TAP THAT INCREASED TOOL LIFE FROM LESS THAN 200 HOLES PER TAP TO 2,000 HOLES PER TAP.

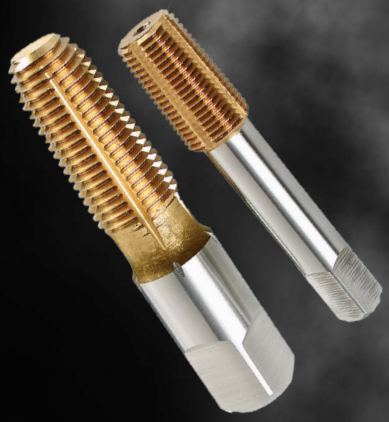


- LONGER TOOL LIFE
- EXCEPTIONAL THREAD FINISH
- LOWEST COST PER PART

FORMING PIPE THREADS

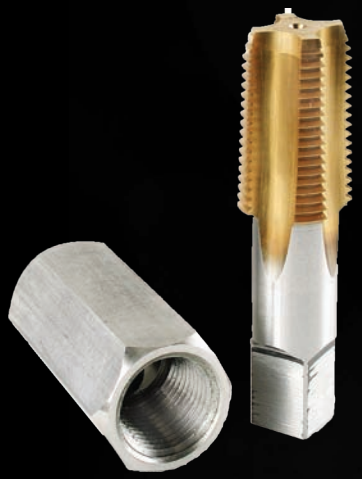
FORMING TAPERED PIPE THREADS IS VERY CHALLENGING. THE FORMED THREAD ADVANTAGES OF STRENGTH, THREAD FINISH AND PRODUCTIVITY MAKE THESE TAPS IDEAL WHEN TAPPING SHALLOW HOLES IN STEEL TUBE MATERIAL. RUN THESE TAPS TWICE AS FAST AS A CUTTING TAP AND PRODUCE NO CHIPS AND NO BURRS!

- FASTER SPEEDS
- INCREASED PRODUCTIVITY
- STRONGER THREADS



STAINLESS STEEL APPLICATIONS

A STAINLESS STEEL APPLICATION WAS ESPECIALLY DIFFICULT FOR THE CUSTOMER. FIRST, THE PART WAS TAPPED WITHIN A 1/2 TURN OF THE BOTTOM OF THE HOLE AND HAD A STRICT FULL THREAD REQUIREMENT, SO JARVIS HELD THE PROJECTION TOLERANCE TO ±0.010 INCHES. THAT GAVE THE CUSTOMER THE PRECISION NEEDED TO MANUFACTURE THE PART WITH THE LOWEST POSSIBLE SCRAP. SECOND, JARVIS GENERATED A HOOK ANGLE AND GEOMETRY THAT PROVIDED A SUPERIOR BURR FREE THREAD FINISH.

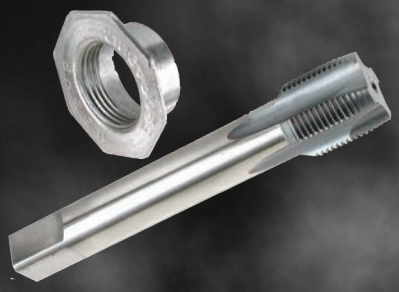


- SPECIAL GEOMETRY
- CLOSE TOLERANCES
- BURR FREE FINISH

THIN WALL STEEL STAMPINGS

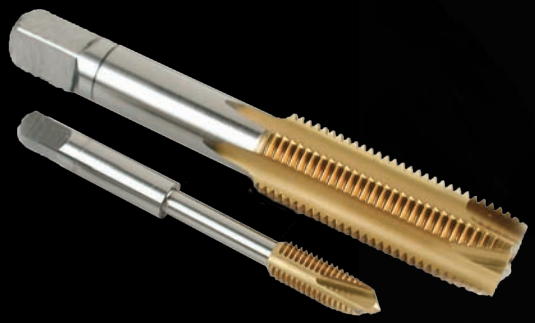
THIN WALL STEEL STAMPINGS ARE COMMON APPLICATIONS MASTERED BY USING JARVIS TAPS. OUTSTANDING BURR FREE FINISHES ARE ACHIEVED IN THESE PARTS WHEN EITHER CUTTING OR FORMING THREADS. AUTOMATED PRODUCTION RUNS REQUIRE CONSISTENT QUALITY WHICH IS ASSURED WHEN USING JARVIS TAPS.

- IN-LINE SETUPS
- IN-DIE APPLICATIONS
- CONSISTENT QUALITY
- CUTTING AND FORMING THREADS

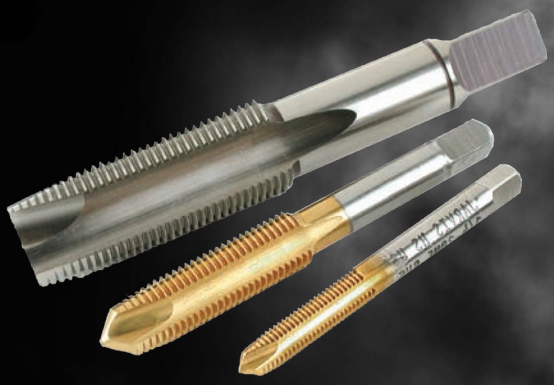


ALLOY STEELS

JARTEKS ARE FOR THROUGH HOLE APPLICATIONS IN CARBON AND ALLOY STEELS SUCH AS 4130, 4140, 1050, 6304 AND 8740. JARTEKS IMPROVE TOOL LIFE OVER GENERAL PURPOSE TAPS. JARTEKS ARE IN STOCK WITH SPIRAL POINTS.



- TITANIUM NITRIDE COATING
- THROUGH HOLE APPLICATIONS
- OUT PERFORM GENERAL PURPOSE TAPS



SOFT MATERIALS

JARHOOK WAS DEVELOPED FOR USE IN SOFT A286 (25 RC OR LESS), ALUMINUM AND STAINLESS STEEL.

TAPPING 0.300 INCHES DEEP IN A 12 POINT NUT MADE OF A286, A 1/4-28 JARHOOK BEAT THE COMPETITION BY CONSISTENTLY MAKING 1,200 PARTS PER TAP COMPARED TO 600 PARTS.

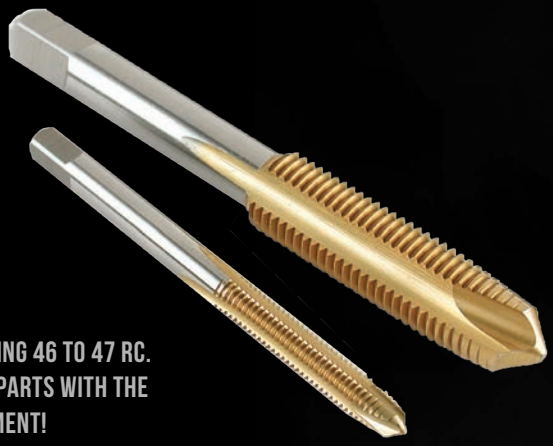
JARHOOKS ARE STOCKED WITH SPIRAL POINTS FOR THROUGH HOLES.

THE GEOMETRY CAN BE APPLIED TO ANY APPLICATION WITH OR WITHOUT SPIRAL POINTS.

- A286 (25RC OR LESS), ALUMINUM, STAINLESS STEEL
- CONSISTENTLY OUTPERFORMS COMPETITION
- DESIGNS FOR THROUGH AND BLIND HOLES

HARD MATERIALS

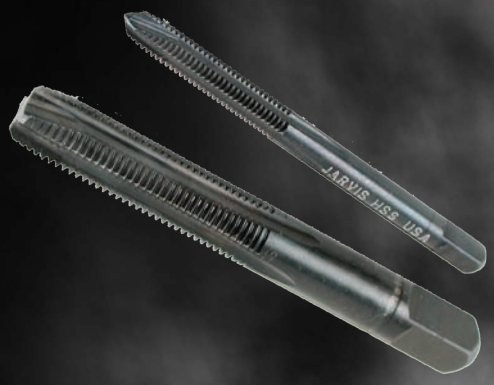
JARTUFF WAS DESIGNED FOR THE TOUGHEST AEROSPACE MATERIALS SUCH AS INCONEL, WASPALOY AND HARD A286 (TYPICALLY 35RC OR HIGHER). FOR EXAMPLE, A 4-40 JARTUFF IS USED TO TAP A THROUGH HOLE THAT IS 0.110 INCHES DEEP IN AN



- INCONEL, WASPALOY, HARD A286 (35RC OR HIGHER)
- INCREASES TOOL LIFE
- WEAR RESISTANT GEOMETRY

X-RAY BEARING SHAFT MADE OF INCONEL 718 MEASURING 46 TO 47 RC. THE JARTUFF TAPPED EIGHTY PARTS VERSUS JUST TEN PARTS WITH THE COMPETITION'S TAP—THAT'S AN EIGHT-FOLD IMPROVEMENT!

IN A WASPALOY FASTENER, 0.300 INCHES DEEP AT 30 TO 35 RC, A 1/4-28 JARTUFF PRODUCES 800 PARTS WHERE THE COMPETITOR'S TAP ONLY GETS 200 PARTS—A FOUR-FOLD IMPROVEMENT! THESE ARE COMMON COST SAVINGS CUSTOMERS ACHIEVE USING JARTUFF.



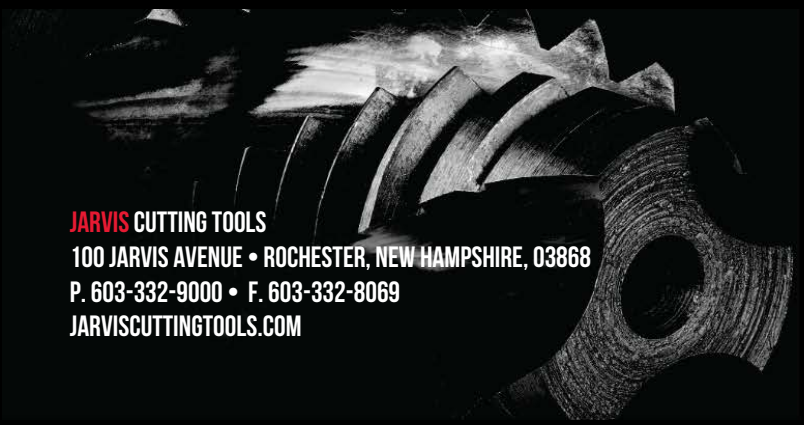
TITANIUM APPLICATIONS

JARTANIUM WAS SPECIALLY DEVELOPED FOR TAPPING TITANIUM FASTENERS. JARTANIUM TAPS HAVE MORE THAN DOUBLED TOOL LIFE OVER COMPETITIVE BRANDS. WHEN THE COMPETITION COULD ONLY PRODUCE 500 HOLES PER TAP, JARVIS WAS CALLED. THE JARTANIUM MAKES 2,000 HOLES PER TAP IN A PART THAT IS 0.300 DEEP IN 6AL4V TITANIUM THAT IS 30RC. THIS PROVEN GEOMETRY IS BEING USED SUCCESSFULLY IN BLIND AND THROUGH HOLE APPLICATIONS.

- TITANIUM APPLICATIONS THROUGH AND BLIND HOLES
- LOWEST COST PER HOLE
- GROUND WITH CLOSE TOLERANCES

WHY JARVIS

- DIRECT FACTORY ENGINEERING DESIGN AND SUPPORT
- IN-HOUSE TESTING OF CUSTOMER PARTS AND MATERIALS
- LOWEST COST SOLUTION
- COMPETITIVE PRICING AND DELIVERY
- CONTINUOUS IMPROVEMENTS
- PREMIUM STEEL TO MEET APPLICATION DEMANDS
- SURFACE TREATMENTS TO OPTIMIZE TOOL LIFE
- TAPS MADE FROM HARDENED BLANKS AND BAR STOCK
- METRIC AND FRACTIONAL SIZES TO INTERNATIONAL STANDARDS
- FLEXIBLE SUPPLY ARRANGEMENTS



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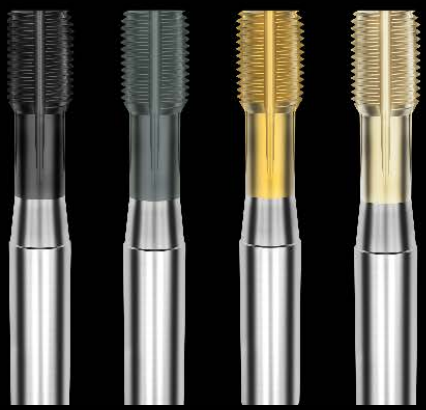

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