



POLY PLATING inc.

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MACHINING OF NICKEL PLATING

NICKEL PLATING IS MACHINED WITH HIGH SPEED STEEL. HIGH SPEED LATHE TOOLS USUALLY HAVE A BACK RAKE OF 6 TO 8 DEGREES, A SIDE RAKE OF 10 TO 15 DEGREES AND RELIEF ANGLES OF 8 TO 12 DEGREES. BROAD NOSE FINISHING TOOLS HAVE A BACK RAKE OF 20 TO 25 DEGREES AND AN END RELIEF ANGLE OF 10 TO 15 DEGREES.

THE MOST SATISFACTORY TOOL MATERIALS FOR MACHINING THE SOFT NICKEL ARE M-2 AND T-5.

A SULPHURIZED OIL OR WATER-SOLUBLE OIL IS RECOMMENDED FOR ROUGH AND FINISH TURNING. A SULPHURIZED OIL IS ALSO RECOMMENDED FOR MILLING, THREADING, TAPPING, REAMING AND BROACHING.

RECOMMENDED CUTTING SPEEDS FOR SOFT NICKEL ARE 70 TO 100 FEET PER MINUTE.

NICKEL ALLOYS HAVE A HIGH TENDENCY TO WORK HARDEN. TO MINIMIZE WORK HARDENING CAUSED BY MACHINING, THE CUTTING TOOLS SHOULD BE PROVIDED WITH ADEQUATE RELIEF ANGLES AND POSITIVE RAKE ANGLES. FURTHERMORE, THE CUTTING EDGES SHOULD BE KEPT SHARP AND REPLACED WHEN DULL TO PREVENT BURNISHING OF THE WORK SURFACE. THE DEPTH OF CUT AND FEED SHOULD BE SUFFICIENTLY LARGE TO ENSURE THAT THE TOOL PENETRATES THE WORK WITHOUT RUBBING.