



## Tool Steel Alloys

### BASIC GROUPS OF TOOL STEELS

		AISI TYPE	DESCRIPTION
WATER HARDENING	CARBON	W1	All of the water-hardening grades can be furnished with 1.00/1.10 pet carbon for general tool die applications; with .70/.90 pet carbon for shock applications; with .90/1.00 pet carbon for cold-heading applications; or with 1.10/1.30 pet carbon for maximum abrasion resistance.
	OIL HARDENING	01 06	A versatile safe-hardening steel for general purpose tools and dies. Has good edge holding ability at high hardness levels. This grade has the highest machinability rating of any tool steel. It is good for general purpose applications particularly those requiring resistance to sliding wear rather than maintaining a cutting edge.
COLD WORK	AIR HARDENING	A2	An extremely safe-hardening steel with low distortion and high abrasion resistance.
		A6	A low-alloy air-hardening steel. The low austenitizing temperature offers safe, economical heat treatment.
		D2	A high-carbon, high-chromium grade for maximum service and minimum dimensional change in heat treatment.
SHOCK RESISTING		S7	A general purpose cold work grade with high shock resistance and strength. Air-hardening reduces quenching hazards, and offers good resistance to distortion during heat treatment. Also used for injection and compression molding of plastics.
HOT WORK		H13	Chrome-moly-high vanadium. For die-casting dies and extrusion tooling.
HIGH SPEED		M2 T1	This is the most widely used type of high speed steel. A tungsten-base, high speed steel. T-1 can be used where modern heat treatment equipment is not available. It is often used for roughing cuts.
PLASTIC MOLD		420	A machined-cavity mold steel for injection or compression operations subject to corrosive media.
		P20	A prehardened (Brinell 300) medium alloy machined-cavity mold steel. Expressly for deep cavities in large cross sections.

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