



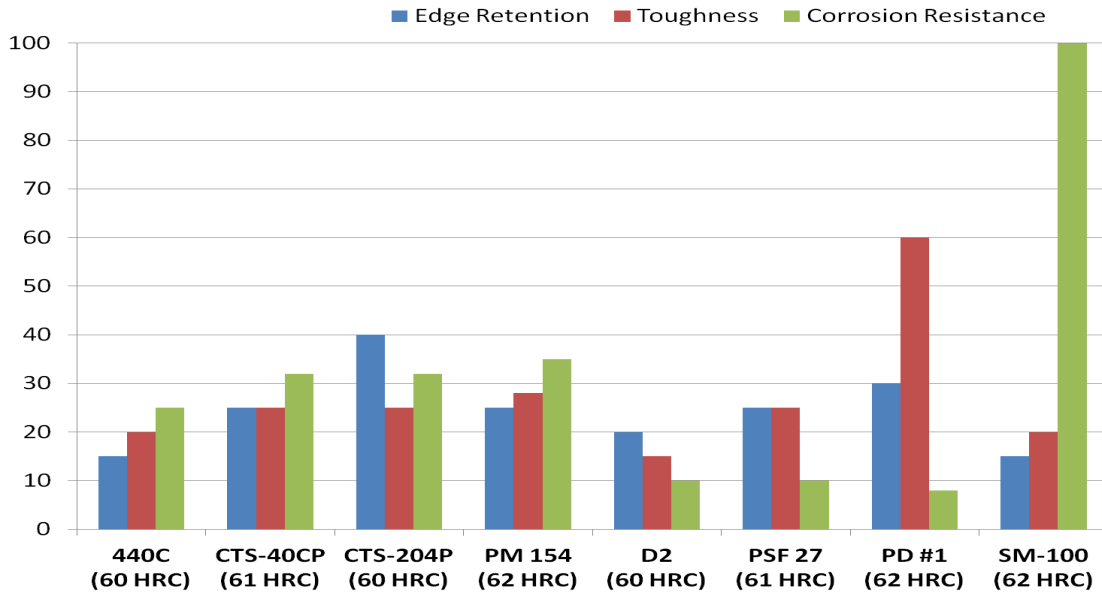
Technical Information: CTS™ 40CP

CTS™ 40CP IS A POWDER METALLURGY, HIGH CHROMIUM STAINLESS STEEL THE GRADE IS USED IN HIGH END CUTLERY AND APPLICATIONS REQUIRING A HIGH DEGREE OF CORROSION RESISTANCE AND WEAR RESISTANCE.

TYPICAL CHEMICAL COMPOSITION

CARBON	1.10%	CHROMIUM	17.00%
MOLYBDENUM	0.75%	SILICON	1.00%
MANGANESE	1.00%		

SBSM KNIFE STEEL PROPERTIES COMPARISON



PHYSICAL PROPERTIES

MODULUS OF ELASTICITY.....31 PSI X 10⁶(214 GPa)
DENSITY..... 0.275 LB/IN³
ANNEALED HARDNESS.....280 MAX BRINELL HARDNESS (BHN)
MACHINABILITY.....SIMILAR TO PM M4 TOOL STEEL



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HEAT TREATMENT

ANNEALING

HEAT TO 1860/1900°F, HOLD 4 HOURS
SLOW COOL 30°F/HOUR MAXIMUM TO 600°F
THEN AIR OR FURNACE COOL TO ROOM TEMPERATURE

STRESS RELIEVING

PERFORMED PRIOR OR AFTER MACHINING TO MINIMIZE DISTORTION IN HEAT TREATING
1200°F, HOLD TWO HOURS
THEN AIR COOL TO ROOM TEMPERATURE

HARDENING

SALT BATH, PROTECTIVE ATMOSPHERE, OR VACUUM FURNACE EQUIPMENT PREFERRED.

HIGH HEAT (AUSTENITIZING)

1850/1950°F FOR 30 MINUTES AT HEAT.

QUENCH

SALT BATH QUENCH TO 1000-1100°F, EQUALIZE, THEN AIR COOL TO 150°F.
VACUUM OR ATMOSPHERE QUENCH RATE OF A MINIMUM 50 DEGREES F PER MINUTE DOWN TO 1200F IS
CRITICAL TO ACHIEVE BEST HEAT TREAT RESPONSE.
TEMPER IMMEDIATELY FOLLOWING QUENCH

TEMPERING

MINIMUM 400°F TEMPERING TEMPERATURE REQUIRED.
DOUBLE TEMPERING IS REQUIRED, TRIPLE TEMPERING RECOMMENDED.
AIR COOL TO ROOM TEMPERATURE BETWEEN TEMPER.

TYPICAL HEAT TREAT RESPONSE

TEMPERING TEMP		HARDENING		HARDENING	
°F	°C	TEMP	TEMP	TEMP	TEMP
		1925°F	1051°C	1925°F	1051°C
				PLUS CRYO	
400	205	60		61.5	
500	260	58		60.5	
600	315	57		59.5	

* Note: Tempering between 800 F and 1000 F is not recommended for stainless steels