



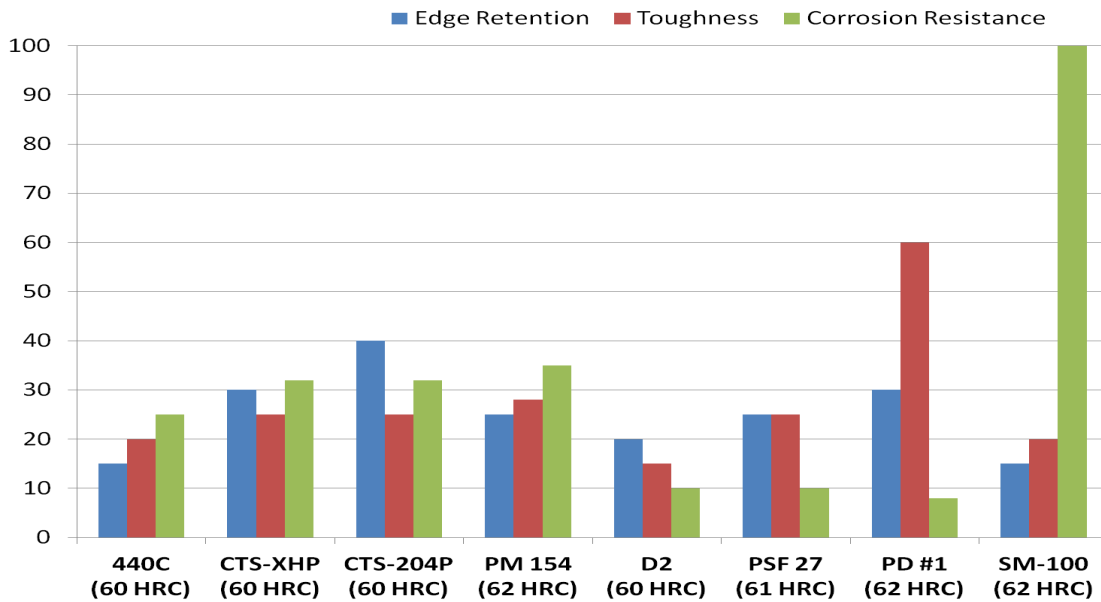
## Technical Information: PM 154

PM 154 is a powder metallurgy, chromium/molybdenum 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	14.00%
Molybdenum	4.00%	Silicon	0.40%
Vanadium	0.45%	Manganese	0.50%

### SBSM Knife Steel Properties Comparison



### Physical Properties

Modulus of Elasticity.....31 psi x 10<sup>6</sup>  
 Density..... 0.275 lb/in<sup>3</sup>  
 Annealed Hardness.....230/255 Brinell Hardness (BHN)  
 Machinability.....Similar to 440C stainless steel



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### Heat Treatment

#### Annealing

Heat to 1600/1650°F, hold 4 hours  
 Slow cool 20°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)

1900-2000°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 tempers.

## Typical Heat Treat Response

Hardening Temp °F °C	Tempering Temp °F °C	Hardness HRC	Tempering Temp		Hardness HRC
			°F	°C	
1900 1038	400 205	59	Plus Cryo 400 205		62
	600 260	56	500 260		60
	800 315	57	600 315		60
	1000 427	60	800 427		61