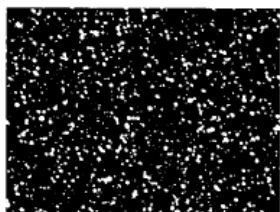
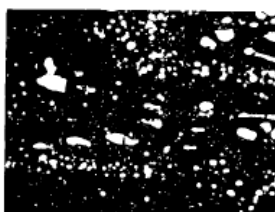


CPM S125V is a highly alloyed martensitic stainless steel produced by the Crucible Particle Metallurgy (CPM) process. CPM S125V contains a high volume fraction of vanadium carbides and chromium carbides to provide great wear resistance and corrosion resistance.

The CPM process produces a very homogeneous, high quality steel characterized by superior dimensional stability, grindability and toughness compared to steels produced by conventional steelmaking.



CPM Steel



Conventional Steel

Carbide Type and Volume			
	Vanadium-Rich	Chromium-Rich	Total
CPM S125V	12%	13%	25%
CPM S90V	9%	11.00%	20.00%
440C	0%	12.00%	12.00%
154 CM	0%	17.50%	17.50%

### Tool Steel Comparagraph

## CRUCIBLE CPM<sup>®</sup> S125V<sup>®</sup>

Issue #1

Carbon	3.30%
Chromium	14.00%
Vanadium	12.00%
Molybdenum	2.50%

### Physical Properties

Elastic Modulus	32 X 10 <sup>6</sup> psi (221 GPa)
Density	0.265 lbs./in <sup>3</sup> (7.31 g/cm <sup>3</sup> )
Thermal Conductivity	

Crucible Industries														
03/05/12														

### Heat Treat Response CPM S125V

	1120°C/30 min/Oil quench				1175°C/10 min/Oil quench				1175°C/10 min/Oil quench/-73°C 1hr			
	As Quenched	260°C 2+2 hr	315°C 2+2 hr	400°C 2+2 hr	As Quenched	260°C 2+2 hr	315°C 2+2 hr	400°C 2+2 hr	As Quenched	260°C 2+2 hr	315°C 2+2 hr	400°C 2+2 hr
CPM S125V	63.5	60.0	60.5	61.0	63.5	60.5	60.5	61.0	64.5	63.0	62.5	63.5

All samples austenitized in molten salt, oil quenched, and double tempered at indicated times and temperatures. Last column includes a deep freeze after the first temper.

	°C	°F
	1120	2048
	1175	2147
	260	500
	315	599
	400	752
	-73	-100