

### MIM 4605 Quench and Temper (High Hardness)

Material Properties	MPIF Standard 35		Kinetics
	Minimum	Typical	Typical <sup>2</sup>
Ultimate Strength (KSI)	215	240	215
Yield Strength (KSI)	190	215	190
Elongation (% in 1")	<1.0	2.0	2
Reduction in Area (%)	-	-	6
Surface Finish (Ra)	-	-	40
Impact Energy (ft-lf) <sup>1</sup>	-	-	29
Hardness (R15N)	-	84.5	84
Sintered Density (g/cm <sup>3</sup> )	-	7.5	7.6

<sup>1</sup>Test method uses 1/2 sized un-notched charpy bar.

<sup>2</sup> Typical values at a hardness of 47 HRC. Higher hardness and strength characteristics can routinely be obtained through varying Quench & Temper conditions



### Material Description

Low alloy steel containing carbon, nickel, molybdenum. A multi-purpose, economical material that offers various strength, hardness and wear resistance properties depending if it is heat treated and the heat treat process used. Can be plated or coated for corrosion resistance. Used by a very wide range of industries including automotive, consumer product, firearms, power hand tools, structural and applications where good strength, hardness and wear resistance is required.

A quench and temper heat treat is a typical and economical process that offers various strength and wear resistance properties depending upon the final hardness.

### Material Composition

Fe	Ni	Mo	C (Max)	Si (Max)
Balance	1.5-2.5	0.2-0.5	0.4-0.6	1.0

Updated on 2/4/2008

This information is subject to change with internal research and development