




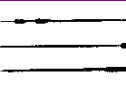




## VISUAL IDENTIFICATION of VARIOUS STEELS

Material	TEST					
	Appearance Test	Magnetic Test	Chisel Test	Fracture Test	Flame Test	Spark Test*
<b>Low Carbon Steel</b> (.20% Carbon or Below)	Dark Grey	Strongly Magnetic	Continuous Chip Smooth Edges, Chips Easily	Bright Grey	Melts Fast, Becomes Bright Red Before Melting	 Long Yellow Carrier Lines
<b>Medium Carbon Steel</b> (.20% to .45% Carbon)	Dark Grey	Strongly Magnetic	Continuous Chip Smooth Edges, Chips Easily	Very Light Grey	Melts Fast, Becomes Bright Red Before Melting	 Yellow Carrier Lines. Sprigs are Very Plain Now
<b>High Carbon Steel</b> (.45% Carbon and Above)	Dark Grey	Strongly Magnetic	Hard to Chip Can be Continuous	Very Light Grey	Melts Fast, Becomes Bright Red Before Melting	 Yellow Carrier Lines. Numerous, Very Clean Star Bursts.
<b>High Sulphur Steel</b>	Dark Grey	Strongly Magnetic	Continuous Chip Smooth Edges, Chips Easily	Bright Grey, Fine Grain	Melts Fast, Becomes Bright Red Before Melting	 Swelling Carrier Lines, Cigar Shape
<b>Manganese Steel</b>	Dull Cast Surface	Non-Magnetic	Extremely Hard to Chisel	Coarse Grained	Melts Fast, Becomes Bright Red Before Melting	 Bright White, Fan-Shaped Bursts
<b>Stainless Steel</b>	Bright, Silvery Smooth	Depends on Exact Analysis	Continuous Chip, Smooth Bright Color	Depends on Type, Mostly Bright	Melts Fast, Becomes Bright Red Before Melting	 1. Nickel: Black Shape Close to Wheel 2. Moly: Short Arrow Shape Tongue (only) 3. Vanadium: Long Spearpoint Tongue (only)
<b>Cast Iron</b>	Dull Grey, Evidence of Sand Mold	Strongly Magnetic	Small Chips About 1/8", Not Easy to Chip, Brittle	Brittle	Melts Slowly, Becomes Dull Red Before Melting	 Red Carrier Lines (Very Little Carbon Exists)
<b>Wrought Iron</b>	Light Grey, Smooth	Strongly Magnetic	Continuous Chip Smooth Edges, Soft and Easily Cut and Chipped	Bright Grey Fibrous Appearance	Melts Fast, Becomes Bright Red Before Melting	 Long, Straw Colored Lines (Practically Free of Bursts or Sprigs)

\*For best results, use at least 5000 surface feet per minute on grinding equipment.  $(\text{Cir. x R.P.M.})/12 = \text{S.F. per Minute}$ .