

# Carbon Steel Hard

**EXTEC®**      Δ      **SIMPLICITY**

## *Color Guide to Materials Preparation*

Carbon steels are fairly straightforward. Depending upon the heat treatment and the information and/or structure you want to reveal will depend on the percent carbon, pre and post heat treatments.

### **Hardware** I

1. Extec Labcut 250B Abrasive Cutting Machine ([www.extec.com/labcut250B](http://www.extec.com/labcut250B))
  2. Extec Labpress 40 Automatic Mounting Press ([www.extec.com/labpress40](http://www.extec.com/labpress40))
  3. Extec Labpol 12-3DI Auto Polisher/Grinder ([www.extec.com/labpol12-3DI](http://www.extec.com/labpol12-3DI))
- or
4. Extec Labpol 12 Auto Polisher/Grinder ([www.extec.com/labpol12](http://www.extec.com/labpol12))

### **Sectioning** II

A rubber-resin aluminum oxide abrasive blade is preferred for ferrous hardness materials

### **Mounting** III

Compression mounting with phenolics is typically used like our number 14505 black epoxy-mounting compounds.

## Grinding/Polishing Method -- Carbon Steel Hard

Surface	Code	Abrasive/Type Size	Lubricant	Code	Pressure (psi)	Time	Wheel Speed	Head Speed/Direction
Coated Abrasive	VI	240 SiC	Water		5 psi	60 seconds	120 rpm	60rpm/Comp
Coated Abrasive	VI	320 SiC	Water		5 psi	60 seconds	120 rpm	60rpm/Contra
Coated Abrasive	VI	400 SiC	Water		5 psi	60 seconds	120 rpm	60rpm/Contra
Coated Abrasive	VI	600 SiC	Water		5 psi	60 seconds	120 rpm	60rpm/Contra
Duraplan Plano	VI	9um Diamond	Water Soluble Diamond Extender	I	5 psi	3 minutes	120 rpm	60rpm/Contra
Optigam	VII	3um Diamond	Water Soluble Diamond Extender	I	5 psi	3 minutes	120 rpm	120rpm/Comp
S-Plan	VIII	1um Diamond	Water Soluble Diamond Extender	I	5 psi	2 minutes	120 rpm	120rpm/Comp
Alphagam	VIII	Multipolish 0.05um	The last 10 seconds wash with Distilled Water		5 psi	90 seconds	120 rpm	120rpm/Comp

