

# Stainless Steel

**EXTEC®**      Δ      **SIMPLICITY**

## *Color Guide to Materials Preparation*

Stainless steels usually have easy to prepare. They are generally medium hard and are relatively soft compared to heat treatable carbon steels. Stainless Steels usually contain about 12% chromium. In most welded stainless steels the objective is to reveal the chrome carbides along the grain boundaries. This follows the ASTM spec 262 for “ditch, dual or stepped” structures.

### **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 medium hardness materials

### **Mounting** III

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

## Grinding/Polishing Method -- Stainless Steels (304, 304L, 306, 316 and 431)

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	VII	6um 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	60rpm/Contra
S-Plan	VIII	1um diamond	Water Soluble Diamond Extender	I	5 psi	2 minutes	120 rpm	120rpm/Contra
Alphagam	VIII	Multipolish 0.05um	The last 10 seconds wash with Distilled Water		5 psi	90 seconds	120 rpm	60rpm/Contra

