

# Multi-Layer Printed Circuit Board

**EXTEC®**      Δ      **SIMPLICITY**

## *Color Guide to Materials Preparation*

Printed circuit boards are integral to virtually all-electronic consumers. The ability to cross-section and analyze these boards for defects. Provides important quality control and failure analysis information. Preparation techniques for printed circuit boards have been complicated by the range of materials involved: resin composites, hard metals, hard ceramics and soft non-ferrous metals configured in a multiple layers.

### **Hardware** I

1. Extec Labcut 1010 Low Speed Diamond Saw ([www.extec.com/labcut1010](http://www.extec.com/labcut1010))
  2. Extec Labpol 12-3DI Auto Polisher/Grinder ([www.extec.com/labpol12-3DI](http://www.extec.com/labpol12-3DI))
- or
3. Extec Labpol 12 Auto Polisher/Grinder ([www.extec.com/labpol12](http://www.extec.com/labpol12))

### **Sectioning** II

Is best performed by a low speed diamond saw with a low concentration diamond wafering blade.

### **Mounting** III

Castable mounting is preferred using a low exothermic resin like our Extec Flow Epoxy.

## Grinding/Polishing Method -- Multi-Layer Printed Circuit Board

Surface	Code	Abrasive/Type Size	Lubricant	Code	Pressure (psi)	Time	Wheel Speed	Head Speed/Direction
Coated Abrasive	VI	400 SiC	Water		5 psi	60 seconds	120 rpm	60rpm/Comp
Coated Abrasive	VI	600 SiC	Water		5 psi	60 seconds	120 rpm	60rpm/Comp
Coated Abrasive	VII	P1200 SiC (two paper at this stage)	Water		5 psi	45 seconds	120 rpm	60rpm/Contra
Coated Abrasive	VII	P2400 SiC (two paper at this stage)	Water		5 psi	45 seconds	120 rpm	60rpm/Contra
S-Plan	VII VIII	1um Diamond	Water Soluble Diamond Extender	I	5 psi	3 minutes	120 rpm	120rpm/Comp
Exgam	VIII	Extec Multipolish 0.05um	The last 10 seconds wash with Distilled Water		5 psi	90 seconds	60 rpm	60rpm/Contra

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