

# **Metallographic Sample Preparation**

## **Sample Selection**

Which section, longitudinal or transverse, will give the desired information

## **Sectioning**

Selecting the appropriate section technique, minimizing damage.

Blade selection for metals and ceramics.

## **Mounting**

Castable & compression mounting – advantages and disadvantages of each technique

Selection of consumables

Special / unusual techniques

## **Grinding**

Considerations for manual grinding

Consumables for manual grinding

Maintaining sample flatness

Grinding to specific locations

## **Polishing**

Selecting polishing compounds and cloths

Selecting a preparation sequence that avoids edge rounding and ensures removal of deformation in order to reveal the true structure.

## **Etching**

Basic laboratory safety

Mixing solutions

Etchants for common materials

Chemical etching

Electrolytic etching

Etch - polishing

## **Examination**

What to look for when the samples are prepared

How to spot preparation artefacts

Documentation of observations

## **Special expertise**

**Fasteners**

**Failure Analysis**

This training course can be customized to your needs and offered at your facility if you have a metallographic laboratory. Alternatively, the course may be offered at a laboratory in West Los Angeles

The course consists of lectures followed by hands-on applications of the discussed topics. Each lecture is illustrated with slides and actual samples.