

# The Analysis of WC surfaces and Diamond Thin Films by Laser-Acoustic Surface Waves



Frank Papa  
Chris Engdahl

**Crystallume**  
Engineered Diamond Products  
3397 De La Cruz Boulevard  
Santa Clara, CA 95054  
Tel: +1 (408) 653-1700  
e-mail: frank@crystallume.com

Thomas Schuelke  
Michael Becker

**Fraunhofer USA**  
Center for Surface and Laser Processing  
211 Fulton Street, Suite 101  
Peoria, IL 61602, USA  
Tel: +1 (309) 999-5887  
e-mail: tschuelke@fraunhofer.org

The International Conference on Metallurgical Coatings and Thin Films  
April 22<sup>nd</sup> – April 26<sup>th</sup> 2002, San Diego, California, USA

# Presentation Outline

## Diamond Coating

- Production flow
- Process and equipment
- Microstructure

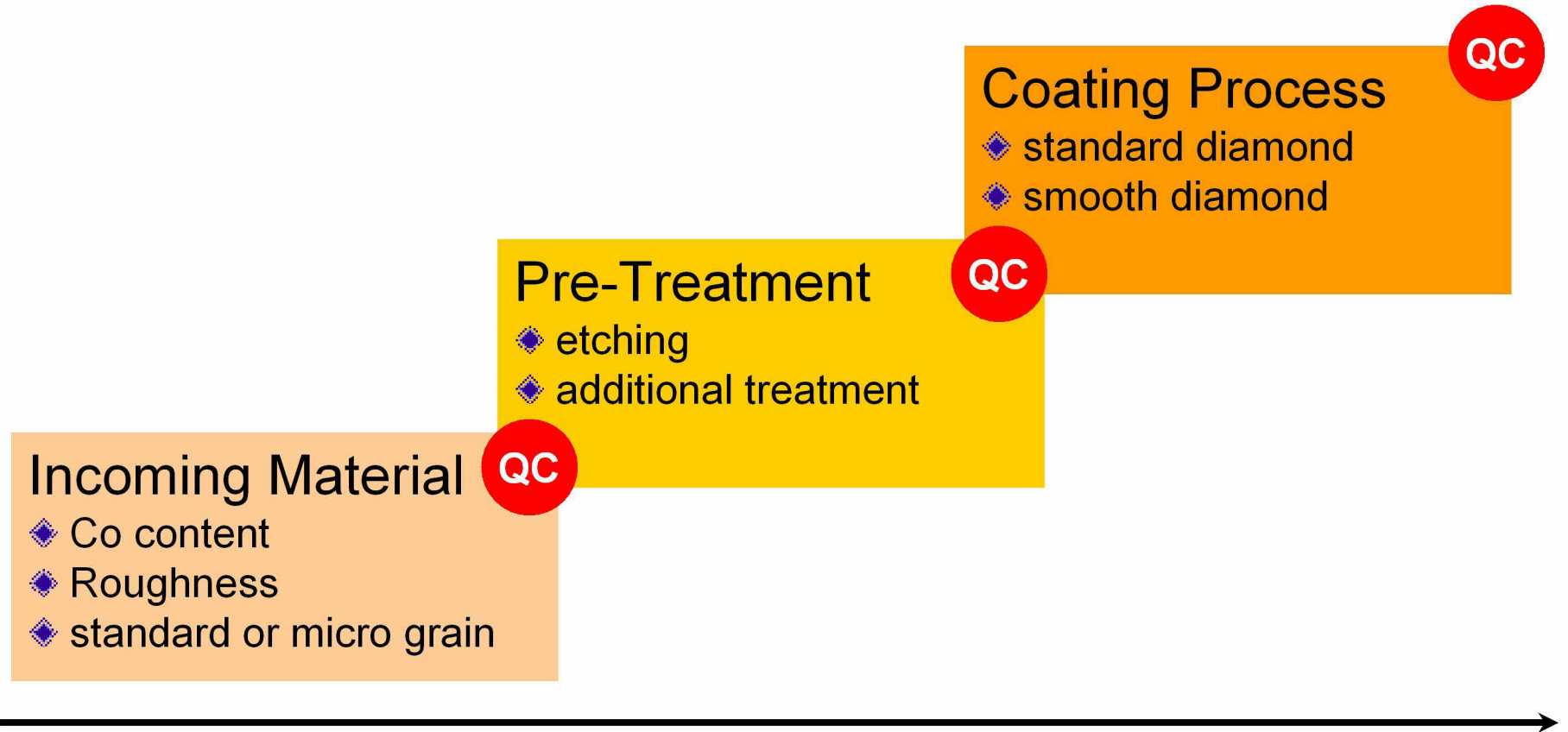
## Quality control by E-Modulus

- LAWave<sup>®</sup> equipment
- Measurement quantities

## Results

- Overview LAWave<sup>®</sup> spectra
- Ground versus ground & etched
- Diamond coatings

# Diamond Coating – Production Flow



# Diamond Coating – Equipment & Process



