

Ebatco's Nano Analytical and Testing Laboratory (NAT Lab) provides advanced and critical analyses, measurements and tests of materials and devices at nano/micro scales. Our lab services support worldwide customers in R&D of novel materials, new products and process optimization, root-cause determination of failed parts, system and part performance verifications, industrial and regulatory compliance tests, and legal investigations.



- Nanoindentation, nano hardness, modulus
- Nano scratch, interfacial adhesion
- Nano tensile testing
- Nano wear, friction coefficient, lubricity
- Scanning probe microscopy, surface roughness determination
- Nano/micro particle size analysis
- Nano/micro particle diffusivity
- Nano/micro particle mobility
- Zeta potential of nano/micro particles
- Zeta potential of solid surfaces
- Zeta potential of membranes
- Nano/micro pore size measurement
- Porosity analysis of membranes and porous materials
- Advancing/receding angles
- Hydrophobicity, hydrophilicity
- Liquid sliding angle
- Liquid surface tension
- Micro contact angle of wires, fibers, micro-features
- Super wetting study, lotus effect
- Surface free energy analysis



### Connecting the World

Ebatco is committed to bring the world most advanced products at the best possible prices to its loyal customers in both the US and China. The product offering portfolio of Ebatco is envisioned to encompass instruments, tools, equipment and machines for a variety of industries, such as high tech, biomedical, semiconductor, electronics, aerospace, transportation, etc. The beginning series of the products carried by Ebatco will be for material surface processing, surface treatment, surface engineering, thin film deposition, material property testing and characterization, and precision machining.

#### Currently Available:

- Contact Angle Meter and Surface Tensiometer, Kyowa Interface Science Co. Ltd
- Micro Abrasive Blasting Systems, Crystal Mark, Inc.
- Porometer, Wenman Scientific Corporation
- UV-Vis-NIR Microspectrophotometer and Microscope, CRAIC Technologies Inc.
- Portable Hardness Tester, Surface Roughness Tester, Time Group

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## Exponential Business and Technologies Company (Ebatco)

- § Analytical and Testing Lab Services
- § Manufacturer's Representative
- § Materials Consulting

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### Expertise and Promise

Ebatco material consultants' expertise spans from material selection to R&D, from property testing and measurement to failure analysis. We have worked with a majority of material types such as steel, metal, ceramic, glass, polymer, existed in nanostructure, thin film, coating, composite, or bulk format. We are strong and have been recognized in data processing, analysis, interpretation, and correlation. In addition, Ebatco has ready access to numerous advanced techniques and equipment within its own lab and through strategic alliances and partnerships, long-term contracts with many commercial, research, and national labs worldwide.

We can guarantee to provide you thorough and satisfactory solutions for your material related challenges in a timely and professional manner.



Got  
material  
problems?  
We can  
help!

Dr. Dehua Yang is the Founder and President of Ebatco. He holds a Ph. D. in Physical Chemistry. He is an internationally well-known nanotechnology expert and an award-winning materials scientist. Prior to founding Ebatco, he was the Vice President of Hysitron, Inc., a world-leading nanomechanical testing instrument designer and manufacturer.

- Nanotechnology Leadership
  - Business Strategy Development
  - Materials Expertise
  - Academic and Industrial Network
  - Cross-Cultural Operation
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- 2007 Micro/Nano 25 Award
  - 2005 Nano 50 Award
  - 4 Issued and 2 Pending US Patents
  - Over 100 publications and Presentations
  - US NSF Grant Proposal Review Panelist
  - International Conference Organizer and Session Chair
  - MRS, ASME, TMS, STLE Member

### Material Systems and Subjects

Steel, Metals, Ceramics, Glass,  
Polymers

Nanostructures, Nanotubes,  
Nanoparticles, Nanowires, Nanobelts,  
Nanocomposites

Thin films, Coatings, Composites

Surfaces, Grain Boundaries and  
Interfaces

Characterization Using Advanced  
Instruments and Techniques

Mechanical, Physical and Chemical  
Property Measurement

Root Cause and Failure Analysis

Tribology, Friction, Wear, Lubrication

Metallurgy, Metallography, Phase  
Diagrams



Turnkey  
Solution!