



Intertechnology Strain Gauge Workshop



Two Day Strain Gauge & Instrumentation Workshop

- The object of this workshop is to provide practical training in the application of strain gauges and theoretical data to achieve improved results and correct analysis.
- In this comprehensive, hands-on Strain Gauge Technology Workshop, participants make several complete strain gauge installations including electrical connection, check-out, and environmental protection; and use appropriate read-out instrumentation to verify results of their own installations.
- A wide range of strain measuring devices are described in detail, guidelines for proper instrumentation selection and band usage are thoroughly reviewed. In the instrumentation portion of the program, some electrical circuitry is discussed. Familiarity with Ohm's Law series and parallel circuits and the Wheatstone bridge is helpful.
- **To express your interest Tel. 1-800-465-1600 or 416-445-5500 Ext.230 or e-mail Karin Blessing kblessing@intertechnology.ca for a registration form.**
- Instructor: Jonathan Loewenstein Ext.248.

What will this workshop cover?

INTRODUCTION TO EXPERIMENTAL STRESS ANALYSIS

- Strain gauges vs Photoelasticity

STRAIN GAUGE CHARACTERISTICS

- Gauge Factor
- Sensing Alloys
- Transverse Sensitivity
- Strain Limits
- Fatigue Endurance

INSTALLATION TECHNIQUES

- Surface Preparation
- Adhesive Selection
- Gauge Installation
- Procedures and Checkout
- Leadwire Attachment
- Protective Coatings

STRAIN GAUGE SELECTION AND CONSIDERATIONS

STRAIN GAUGE CIRCUITRY

- Quarter, Half and Full Bridges
- Leadwire Compensation

BRIDGE EXCITATION

- Power Levels
- Self-Heating

STATIC MEASUREMENT

- Strain Indicator Characteristics
- Multi-channel and Computer-based systems

DYNAMIC MEASUREMENT

- Signal Conditioning
- Frequency Response
- Readout Instrumentation

GAUGE INSTALLATION WITH CYANOCRYLATE AND EPOXY ADHESIVES

- Room Temperature Installation
- Leadwire Attachment
- Measuring Strain Level
- Protective Coatings

TEMPERATURE MEASUREMENT TECHNIQUES

- Strain Gauge Self-Heating Effects
- Hostile Test Environments
- Special Sensors

NOISE REDUCTION

- Shielding
- Grounding
- Leadwire Considerations

CALIBRATION TECHNIQUES

ENGINEERING APPLICATION OF STRAIN GAUGES

ROSETTE ANALYSIS

Presented by:

- Mr. Jonathan Loewenstein, Applications Specialist at Intertechnology Inc. has over 30 years experience in the experimental stress analysis field, advising and working on projects in industries including Automotive, Defense, Research, Education, Aerospace and Steel plants.
- Don't miss out on your opportunity to learn more about Stress Analysis or to refresh your technique.
- We can also run on-site workshops for companies.

DON MILLS

Dates: October 6 – 7, 2009 and October 21-22, 2009

Cost: \$ 690.00 plus taxes CANADIAN FUNDS

Times: 8:15am to 5:00 pm

Venue: Intertechnology Inc.

1 Scarsdale Road,
Don Mills, ON
M3B 2R2