



ESTEQ

ESTEQ Strain Gauge Course Agenda

**Understanding, Planning, Evaluating and Bonding a Strain
Gauge**

(3-day Course)

Day 1

09:00 – 09:15	Welcome and Introduction to ESTEQ
09:15 – 09:45	History of Strain Gauges
09:45 – 10:00	Types of Strain Gauges (Foil & Optical SG)
10:00 - 10:30	Types of Foils Strain Gauges
<i>Approx. 10:30 - 10:45 Tea break!</i>	
10:45 – 11:15	Typical Applications 1
11:15 – 12:00	Strain Gauge Manufacturing
12:00 – 12:30	<i>Lunch</i>
12:30 – 13:15	Stress and Strain
13:15 – 14:00	Strain Gauge Measurement Principles
<i>Approx. 14:00 – 14:15 Tea break!</i>	
14:15 – 14:45	Applications 2
14:45 – 15: 15	Strain Gauge Accessories
15:15 – 15:50	Strain Gauges Catalogue
15:50 – 16:00	Day Wrap-up!

Day 2

09:00 – 09:15 Overview of Day 1

09:15 – 09:45 Wheatstone bridge

09:45 – 10:30 Strain Gauge Circuits

Approx. 10:30 - 10:45 Tea break!

10:45 – 11:15 Strain Gauge Selection

11:15 – 12:00 SG Calibration

12:00 – 12:30 Lunch

12:30 – 13:15 Digitising Analog Signals

13:15 – 14:00 Screening & More

Approx. 14:00 – 14:15 Tea break!

14:15 – 14:45 Signal Processing/Data Analysis

14:45 – 15:05 Data Analysis Demo

15:05 – 15:30 Digital Image Correlation (D.I.C.): Measuring strain with cameras

15:30 – 15:50 Video: Strain gauge application inside a steel pipe

15:50 – 16:00 Day Wrap-up!

Day 3

- 09:00 – 09:15 Overview of Day 2
- 09:15 – 10:30 Installation Demo & Video
- Approx. 10:30 - 10:45 Tea break!*
- 10:45 –11:00 Practical Session #1: Correct soldering technique. 20 wires are soldered onto a dummy solder tab.
- 11:00 –12:00 Practical Session #2: Bonding of a linear strain gauge on a cantilever beam with a cyanoacrylate. (Z70)
- 12:00 – 12:30 Lunch*
- 12:30 – 13:15 Practical Session #2 Continued: Comparison of hand calculation and measurement results of cantilever beam installation
- 13:15 – 14:00 Practical Session #3: Bonding of a torque strain gauge on a round aluminium rod with a cyanoacrylate. (Z70)
- Approx. 14:00 – 14:15 Tea break!*
- 14:15 – 14:45 Practical Session #3 Continued
- 15:15 – 15:50 Comparison of hand calculation and measurement results of torque strain gauge installation
- 15:50 – 16:00 Day Wrap-up!