



Basics of  
Strain Gauge Installation and  
Strain Gauge Measurement Technology  
(Incl. Certification acc. VDI/VDE/GESA 2636 - Course 1)

**Program**

## Day 1

09.00 - 09.15 h	Welcome and introduction to the seminar program
09.15 - 10.15 h	Basics and mode of operation of a strain gage (SG)
approx. 10.15 - 10.30 h	Coffee break
10.30 - 10.45 h	Overview of the SG installation procedure: What needs to be done?
10.45 - 12.00 h	Stepwise installation of a SG on a cantilever model - part 1 (practical exercise) <ul style="list-style-type: none"><li>- Preparation of SGs</li><li>- Preparation of object</li><li>- Usage of rapid adhesive (Z70)</li></ul>
approx. 12.00 - 13.00 h	Common lunch break
13.00 - 14.45 h	Stepwise installation of a SG on a cantilever model - part 2 (practical exercise) <ul style="list-style-type: none"><li>- Check-ups of measuring point</li><li>- Cable reliefs and cable fixings</li><li>- Protection of measuring point with silicone SG250</li></ul>
approx. 14.45 - 15.00 h	Coffee break
15.00 - 17.00 h	Usage and installation of SGs with Ni-plated copper leads and usage of adhesives X60 (practical exercise)
17.00 h	End of seminar day 1

## Day 2

09.00 - 10.00 h	Installation of SGs with integrated solder pads and hot curing epoxy adhesives EP150 and EP310S (practical exercise)
10.00 - 10.45 h	Continuation of previous installation with X60 <ul style="list-style-type: none"><li>- Soldering of wires</li><li>- Electrical check-up of measurement point</li><li>- Cable relief and fixture of cables</li><li>- Protection of measuring point with polyurethane PU140</li></ul>
approx. 10.45 - 11.00 h	Coffee break
11.00 - 12.00 h	Wheatstone Bridge (WB) and compensation of different types of influences with SGs <ul style="list-style-type: none"><li>- Fundamentals and principle of operation of the WB</li><li>- Application modes of the WB</li><li>- Temperature compensation</li></ul>
approx. 12.00 - 13.00 h	Common lunch break
13.00 – 13.45 h	Examples, selection and overview of components for a SG installation
13.45 - 14.30 h	Opportunity for a certification exam according to standard of Association of German Engineers (VDI/VDE/GESA 2636, course 1)
approx. 14.30 - 14.45 h	Coffee break
14.45 - 16.00 h	Strain measurement with own cantilever model (practical exercise) <ul style="list-style-type: none"><li>- Measurement</li><li>- Discussion results and error estimation</li></ul>
16.00 - 16.30 h	Protection of measuring points with permanently elastic materials AK22 and ABM75 (practical exercise)
16.30 - 16.45 h	Inspection of previous SG installation with hot curing epoxy adhesives
16.45 - 17.00 h	Summary, overview and end of seminar