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on Strain Gauges



This eBook introduces the fundamentals of strain gauge measurement, ranging from gauge selection through analysis and evaluation of acquired data.

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# 10 TIPS

## To Make Your Strain Gauge Installations Go Quickly & Effectively

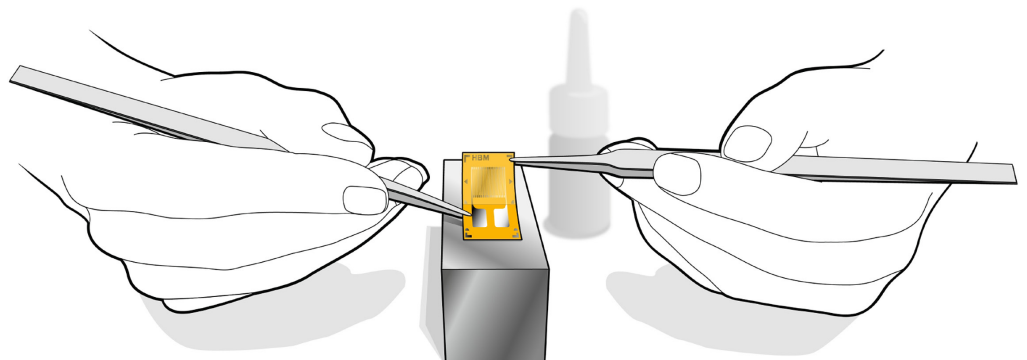
When you need to measure strain on an object, you are often doing so in a short timeframe. If the strain gauge is improperly installed, you can receive false measurements, which may cause you to spend even more time correcting these mistakes.

**TIP 1** The most important step is proper preparation. To make everything run smoothly, collect all the materials you'll need for the installation ahead of time and lay them out in order of when they will be used.

**TIP 2** Save time and energy by using a handheld sander or sand blaster to clean the space where you're going to mount the strain gauge or gauges. Not only will this speed up the process but the space will also be more precisely defined.

**TIP 3** Clean the space you have sanded using a surface cleaning agent such as the HBM RMS1 spray, which frees surfaces of dirt, grease, and other impurities. No matter which cleaning agent you choose to use, be sure to use a clean pad when wiping down the area.

**TIP 4** Once the surface has been prepared, use an empty ballpoint pen for marking out the measuring points. Not only does the pen show strain gauge positioning, it does not produce the sharp burs that occur when using a scribe — which would require a second cleaning step.



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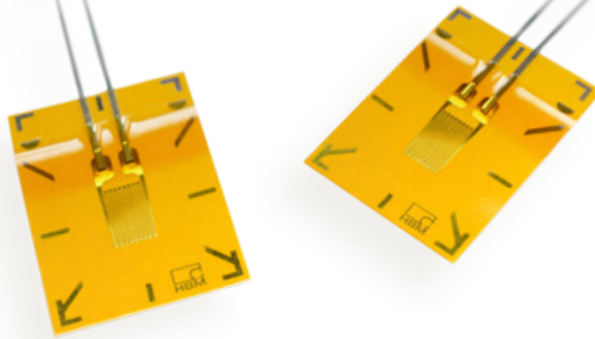


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**TIP 5** Remember to prepare your measuring points in one step, no matter how many strain gauges you plan to install. Afterward, use special removable adhesive tape to cover the cleaned and measured surface until the strain gauges are fully installed.

**TIP 6** We suggest that you only use prewired strain gauges so you do not have to perform soldering. This also eliminates the need to remove residual flux from the area.

**TIP 7** Select the right adhesive. There are many types of adhesives available to attach your strain gauges, from ultraviolet curing adhesives to epoxy adhesives. We recommend a cold curing adhesive such as HBM's Z70 product for bonding your strain gauges. Such fixatives are single component adhesives, do not require mixing, and cure quickly. For example, Z70 cures on very slight adhesive films, at room temperature, and under thumb pressure.

**TIP 8** Protect strain gauges around their entire surface. Aluminum foil coated with a 3-mm thick kneading compound, such as HBM's ABM75 accessory, helps to safeguard strain gauges from weather and water.

**TIP 9** Connect the strain gauges to an amplifier, such as something similar to the QuantumX MX1615, because it is possible to connect the strain gauge cables to the amplifier module without soldering.

**TIP 10** Select the right analysis software. For those who wish to start measuring immediately from their computer, we recommend software that simplifies the acquisition, visualization, and analysis of your measured data. HBM's catman software will help you get your results quickly — and easily configure and visualize your next measurement.

