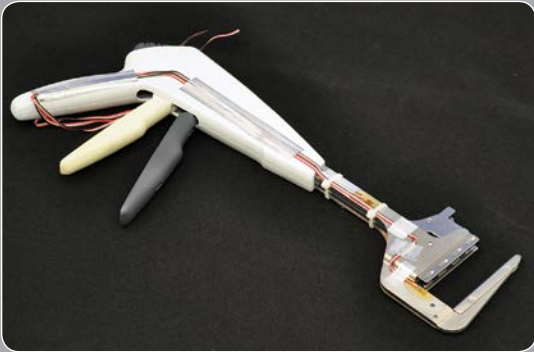


Measure Real World Forces on Almost Anything

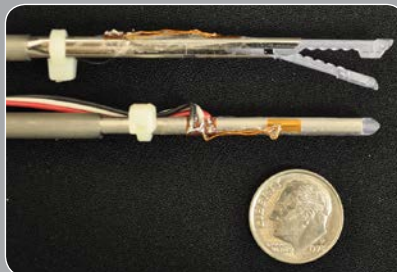


STRAIN GAGE INSTRUMENTATION is used to determine actual loads that are carried and transferred through products, machinery and packages.



Powerful, Flexible Tool

The most common reasons to apply strain gages include: assessing the root causes of failures, developing specifications for new equipment, determining if the capacity of a particular piece of equipment can be safely increased or evaluating the opportunity to increase the throughput of a particular process.



**» Strain Gage Installation
and Measurement Training Available**

TRANSPORTATION



Monitoring dynamic forces on fully loaded coal cars during unloading.



Monitoring dynamic loads in snow mobile clutch during operation.

MOBILE EQUIPMENT



SAE Crane Testing.



Measuring strains in large cast compactor components during field use.

INDUSTRIAL MACHINERY



Foundry crusher instrumented with strain gages to verify that operational performance conforms to design targets.



Measuring strain transferred through mechanical links on a high speed packaging line.

STRUCTURES

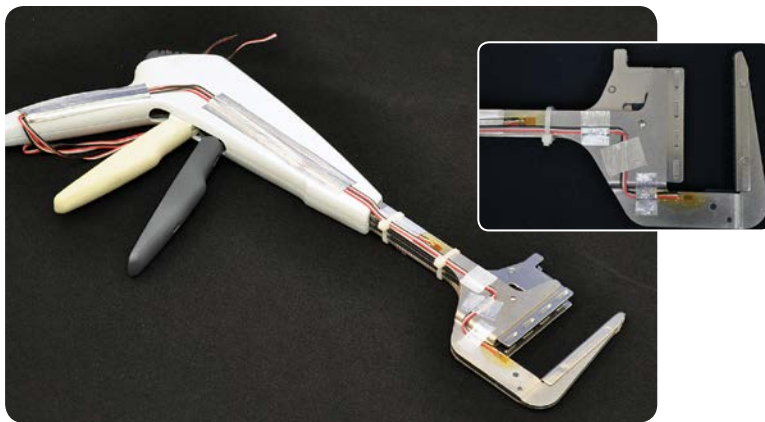


Monitoring loads on polyethylene burial crypt system.

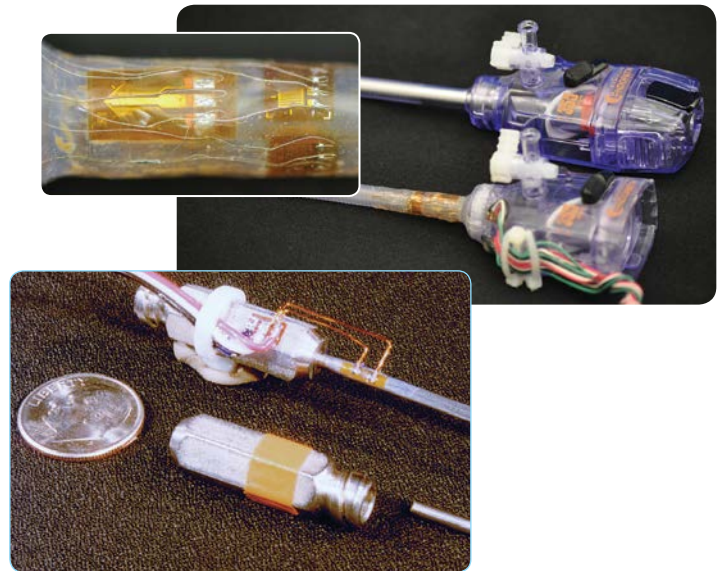


Strain gage-based wireless pipe hanger load measurement system in a power plant.

MEDICAL & SURGICAL DEVICES



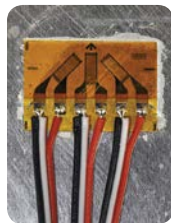
Strain gages can measure the actual loads in medical and surgical devices during use.



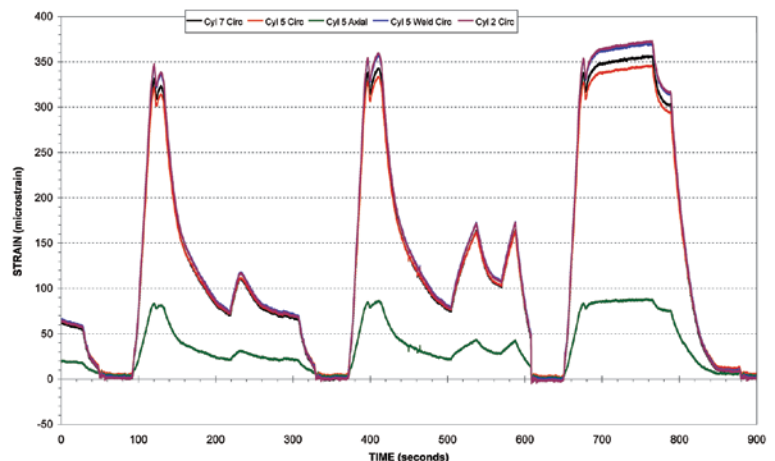
ABOUT STRAIN GAGES

What Strain Gages Are & How They Work

Forces or loads are related to the stress in an object. Since stresses cannot be measured directly, it is easier to measure strains, the small amounts of "stretching" that occur in all materials when they are under load. With information about strain, the relationship between stress and strain can be used to determine the forces in an object.



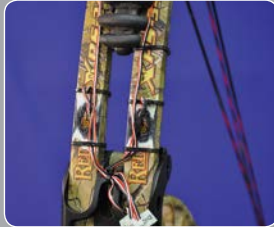
Strain gages are small sensors which attach to the surface of an object to be tested. While usually made of metal foil, they can also be semiconductors or fiber optics. When the surface to which they are attached is strained, changes in the gage can be measured and recorded. Typically, resistance style strain gages will measure deformations on the order of 0.000001 inches.



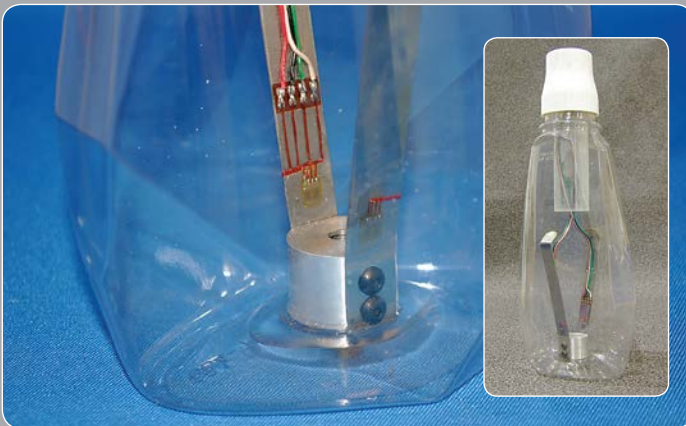
CONSUMER PRODUCTS & PACKAGING



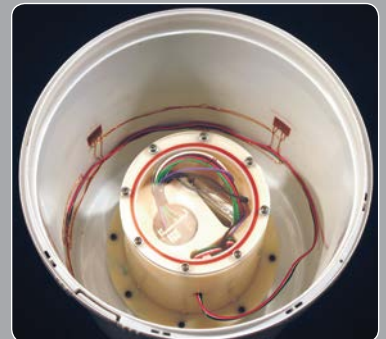
Measuring performance differences in compound bow vibration dampener accessories.



Characterizing transportation forces on a pail.



Measuring labeler application forces on high speed filling lines.



No Placement too Difficult

SES places more than 5,500 strain gages annually, often in some of the most challenging and inhospitable environments imaginable. If strain gaging is possible, SES has the experience necessary to get the job done. We also provide training services for clients interested in installing their own gages and making their own measurements. Call Stress Engineering — Cincinnati for details.

To Reach a Strain Gaging Expert,
Call SES Today at 513-336-6701

CONTACT INFORMATION

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