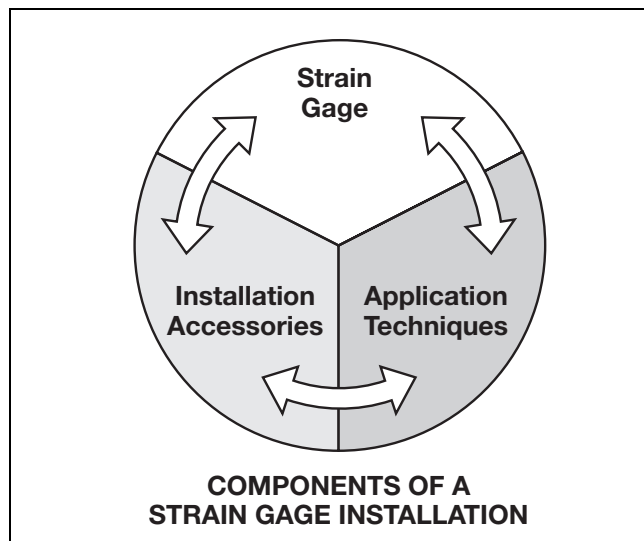


General Information and Selection Guide



This databook describes a wide range of accessories used for installation of electrical resistance strain gages. These accessories have been developed and selected specifically for their effectiveness and ease of use in making strain gage installations. They have also been carefully tested for their reliability and consistency of properties. The range of products offered in this catalog covers the full spectrum of typical gage installation requirements.

Making accurate and reliable strain gage measurements does not depend on the quality of the strain gage alone. The gage can perform to its fullest potential only if the installation is of comparable quality. To accomplish this requires strict adherence to the recommended installation procedure, including use of the proper accessory tools and supplies.

As shown in the accompanying diagram, there are three principal components in every strain gage installation: 1) the strain gage, 2) the tools, materials, and supplies (accessories) used in installing the gage, and 3) the techniques employed in performing the installation. The well-documented formula for making *consistently* successful strain gage installations is simple —

- select high-quality, precision strain gages.
- select professional-caliber accessories, laboratory- and field-proven for effectiveness and compatibility with the strain gages.
- pay careful attention to the installation procedures recommended by the manufacturer of the gages and accessories.

There are, as indicated by the double-ended arrows in the diagram, three sets of interface reactions — between the gage and accessories, between the gage and application techniques, and between the accessories and installation procedures.

Because technique is such an important ingredient in strain gage installation, Vishay Micro-Measurements accessories are accompanied by detailed instructions, where needed, for their proper use. The importance of attention to detail, and of precise adherence to the application instructions supplied, cannot be overemphasized when installing strain gages.

Additionally, to help ensure your success in installing strain gages, we maintain an experienced and highly trained Applications Engineering staff. Our Applications Engineers are as close as your telephone. We urge you to call them for recommendations in the strain gage/accessory selection process, installation technique, or to discuss any problems you may encounter when using our products.





General Information and Selection Guide

When a decision is made to conduct a strain gage test, proper selection of the appropriate accessories is most important to achieve high-quality installation of the strain gage. The chart below can be used as a guide to help in the selection process.

For your convenience in quickly locating a particular accessory, this databook is divided into sections by type of accessory (i.e., adhesives, soldering supplies, wire, etc.). In addition, the order of the sections in the catalog corresponds generally to the order of accessory use in making a strain gage installation. Thus, the first section is devoted to surface cleaning materials, the second to adhesives, and so on. Also included is information on other Vishay Micro-Measurements products that are very useful for strain gage installation and

testing. These include precision resistors, a gage installation tester, and a portable welder for installing weldable strain gages.

Each product entry includes both the product description and its stock designation. Product selection guides and recommendations are also provided where applicable.

Remember, your success in making reliable strain gage installations is important to us. Whenever you encounter any difficulty in the installation process, or are unsure of selecting the proper accessories for a given application, call, fax, or email our Applications Engineering Department for assistance.

PLANNING FOR RELIABLE STRAIN GAGE INSTALLATIONS	
SEQUENCE	RELEVANT QUESTIONS AND CONSIDERATIONS
DEFINE THE TEST CONDITIONS	Static or dynamic? Operating temperature range? Environment? Test duration? Measurement accuracy? Material properties of test part? Type of stress field and strain gradient?
SELECT THE STRAIN GAGE	Consult Tech Note TN-505, "Strain Gage Selection—Criteria, Procedures, Recommendations" and Catalog 500, "Precision Strain Gages".
SELECT THE SURFACE CLEANING SUPPLIES	Type of material and surface conditions of test part? Preparation time? Mechanical tools required? Limitations on material removal?
SELECT THE ADHESIVE	Compatibility with gage backing and test part material? Temperature (installing and test)? Fatigue life? Elongation capabilities? Strain levels expected? Clamping accessibility?
SELECT THE INSTALLATION TOOLS	Room-temperature or elevated-temperature installation? Gage location accessibility? Protective coating requirements?
SELECT THE TERMINALS	Leadwire system to be employed? Backing material? Size?
SELECT THE SOLDER & LEADWIRE	Temperature (installing and test)? Mechanical strength? Gage factor desensitization? Bridge configuration? Corrosion? Electrostatic/Electromagnetic fields?
SELECT THE PROTECTIVE COATING	Environmental survival: Temperature range, mechanical abrasion, chemical attack, pressure, etc., and ability to cure in installation environment? Reinforcement?

