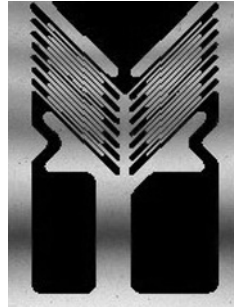


Principal Stress Separation

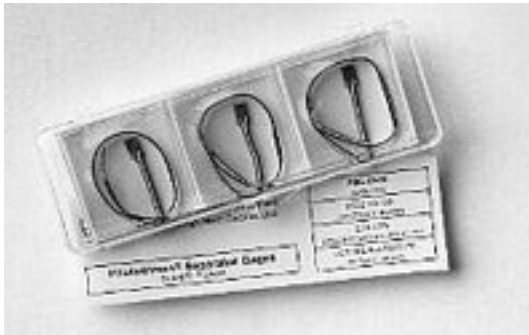


DESCRIPTION

To separate the principal strains located in areas other than at free boundaries, an additional measurement is required which can be obtained by two different methods. One method employs the Slitting Technique, while the other is based on the use of a PhotoStress Separator Gage. Because of its ease of application and interpretation, the Separator Gage is usually preferred. However, when

working with the medium- and low-modulus class of PhotoStress materials, the Separator Gage is not applicable.

PhotoStress Separator Gage



The PhotoStress Separator Gage is a unique electrical resistance gage, designed and produced by Micro-Measurements, that measures the sum of the principal strains. This data, when coupled with the measured

difference of principal strains made with the LF/Z-2 PhotoStress Plus provides the separate principal strain values.

The PhotoStress Separator Gage has special design features for ease of use and optimum performance in PhotoStress applications. Pre-attached leadwires are provided to avoid soldering problems after the gage is bonded to the photoelastic coating, and the gage is polyimide-encapsulated to eliminate the need for a protective coating in most cases. Gages are supplied three-to-a-package, and are offered in two self-temperature-compensation types: 06 and 13, for use on steel and aluminum alloys, respectively. The Separator Gage can be used on photoelastic coating material types PS-1, PS-8, PL-1, and PL-8.

RESISTANCE	MATRIX SIZE	DIMENSIONS			
		GAGE LENGTH	OVERALL LENGTH	GRID WIDTH	OVERALL WIDTH
200Ω ± 15%	0.30in L x 0.20in W	0.063in	0.255in	0.057in	0.160in
	7.6mm L x 5.1mm W	1.60mm	6.48mm	1.45mm	4.06mm
1000Ω ± 0.5%*	0.30in L x 0.20in W	0.063in	0.255in	0.057in	0.160in
	7.6mm L x 5.1mm W	1.60mm	6.48mm	1.45mm	4.06mm

Principal Stress Separation

Model 330 Interface Module



Separator Gages must be used with a specially designed interface module in conjunction with the Measurements Group P-3 Strain Indicator. The Model 330 Interface Module is a four-channel switch-and-balance unit with precision resistive circuits for reducing gage excitation voltage to minimize self-heating effects, supplying bridge-completion for the 200-ohm Separator Gage, and attenuating the gage output so that the P-3 Strain Indicator reads out in units of 10 microstrain. Provided with the Model 330 are four specially

configured connecting cables for quick and convenient solderless connections between the Separator Gage leadwires and the Interface Module.



Connecting cable

The 6-foot (1.8m) cable incorporates gold-plated push/clamp binding posts to assure negligible contact resistance at leadwire connections.

- * The 1000 Ω separator gage can be connected directly to the P3 strain indicator without the 330 Module.



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