



VISHAY
PRECISION
GROUP



Product Overview

PhotoStress[®] Analysis

The LF/Z-2 Computerized Reflection
Polariscope System for Full-Field Stress Analysis

Micro-Measurements



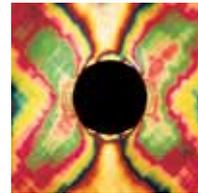
www.photostress.com

What is PhotoStress® Analysis?

- A full-field stress and strain analysis method
- Can be utilized under various live load conditions
- Suitable for residual stress analysis, assembly stress inspection, and fatigue tests
- Can be applied to various materials (metals, composites, concrete, and more)
- Easy to use and analyze results



Suspensions



Aluminum (top),
composite material
(bottom)



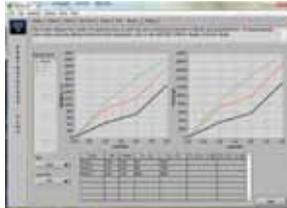
Low load (top),
high load (bottom)

About PhotoStress

- The PhotoStress® analysis system is composed of a reflection polariscope and PSCalc® computer software that enables the user to store and process LF/Z-2 readings of stress and strain
- A variety of photoelastic coatings may be applied on a wide range of materials, with simple or complex shapes



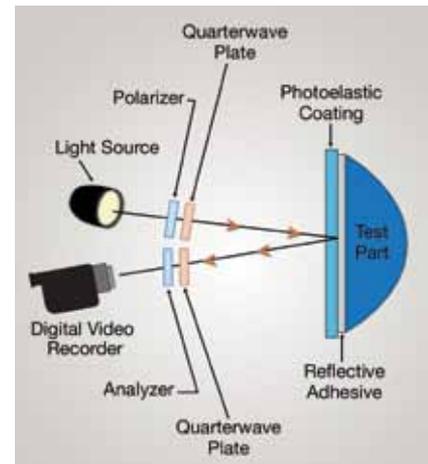
LF/Z-2 Reflection
Polariscope—tripod-
mounted or handheld



PSCalc® Software



PhotoStress coating
applied to a structure of
complex shape



Schematic representation of a
reflection polariscope

SPECIFICATIONS

SPECIFICATIONS	
Range	From 0% to 150% elongation (by various coating types)
Resolution	≈10 μs (for 3-mm coating thickness)
Measuring Area	Subject to coated area
Working Distance	Up to 3.05 m (10 ft)*
Light Source	White light
Operating System	Windows 2000, XP, Vista, Windows 7
Size and Weight	Maximum height: 1950 mm (76.4"); Assembled weight: 2.9 kg (6.3 lb)
Camera Resolution	Function of camera type used
Other Components	PSCalc computer software, laser-based direction indicator, USB compensator interface, application kit, portable operation handgrip, technical/operating manuals and tech notes

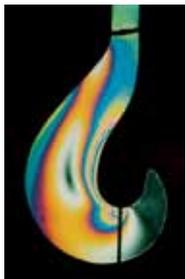
PhotoStress® Analysis System – Main Benefits and Solutions

- Instant identification of stress concentrations and zero-stressed areas
- Quantitative measurement of stress and strain at any point on the structure
- Validation of any finite element analysis (FEA)
- Weight reduction optimization
- Analysis of:
 - Stress resulting from fabrication tolerances
 - Stresses which occur during assembly processes
 - Residual stresses due to processes such as welding and casting
 - Simple or complex stress situations



Learn more at:

www.vishaypg.com/micro-measurements/photo-stress-plus/



PhotoStress®



FEA



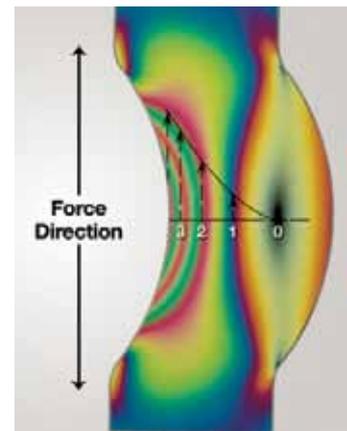
PhotoStress analysis of a landing gear



Human bones—PhotoStress stress distribution analysis



PhotoStress stress patterns of an aircraft fuel door panel under load



Stress distribution in a C-shaped beam

The Americas

United States **Vishay Precision Group – Micro-Measurements**
P.O. Box 27777 • Raleigh, NC 27611
Ph: +1-919-365-3800 • Fax: +1-919-365-3945
E-mail: mm.us@vishaypg.com

Asia

P.R. China **Vishay Precision Group – Micro-Measurements**
A8220, Shanghai Jia Hua Business Center
No. 808 Hong Qiao Road • Shanghai 200030
Ph: +86-21-6448-6090, Ext. 6098 • Fax: +86-21-6448-6070
E-mail: mm.cn@vishaypg.com

Israel **Vishay Precision Group – PhotoStress Technology**
2 HaOfan Street • Holon 58814
Ph: +972-3-557-0981 • +972-3-559-5715
E-mail: photostress@vishaypg.com

Europe

France **Vishay Precision Group – Micro-Measurements**
16 Rue Francis Vovelle • 28000 Chartres
Ph: +33-2-37-33-31-20 • Fax: +33-2-37-33-31-29
E-mail: mm.fr@vishaypg.com

Germany **Vishay Precision Group – Micro-Measurements**
Tatschenweg 1 • 74078 Heilbronn
Ph: +49-7131-39099-0 • Fax +49-7131-39099-229
E-mail: mm.de@vishaypg.com

Spain **Vishay Precision Group – Micro-Measurements**
C/Copenhagen, N°4, 6 y 8 - Planta 1ª - Oficina 12 • Edificio Al Andalus
Polígono Európolis • 28232 Las Rozas, Madrid
Ph: +34-916-407-624 • Fax: +34-916-375-601
E-mail: mm.es@vishaypg.com

United Kingdom **Vishay Precision Group – Micro-Measurements**
Stroudley Road • Basingstoke • Hampshire RG24 8FW
Ph: +44-(0)125-646-2131 • Fax: +44-(0)125-647-1441
E-mail: mm.uk@vishaypg.com