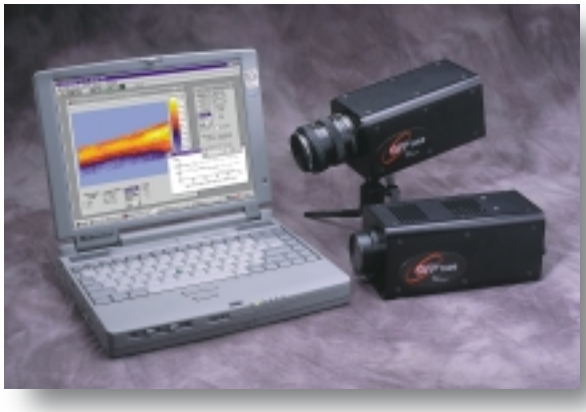
Grey-Field Polariscope



Full-field Photoelastic Strain Measurement System

*The **GFP 1000** by Stress Photonics eliminates the tedium associated with traditional photoelasticity by automating data acquisition and processing.*

Fringe counting is no longer necessary. The extremely sensitive system can measure shear strain magnitude and direction directly without high-strain photoelastic fringes.

*The full-field strain images can be analyzed via easy-to-use **DeltaVision** software. Whether interrogating a high-strain point or subtracting superimposed strain states, the images can be manipulated quickly and cut directly into most popular word processing packages.*

Photoelastic Strain Analysis

Glass and Plastic

*With the **GFP 1000,** residual stresses in glass and plastic are obtained without the need for a coating (see windshield image below) and production or installed windshields can be analyzed utilizing the black paint band or "frit" as a reflective surface.*

Coatings

*The **GFP 1000** works with a wide variety of coating techniques from traditional contour methods to thinner paint-on coatings. Special tinted resins enable the system to automatically measure the coating thickness, reducing photoelasticity to a simple paint & shoot technique.*

Features

- *Automated full-field strain measurement*
- *20 microstrain resolution typical.*
- *Simple static loading*
- *Thickness measurement via tinted coating*
- *Sub-fringe or multi-fringe*
- *Compatible with all coatings*
- *Traceable system calibration*

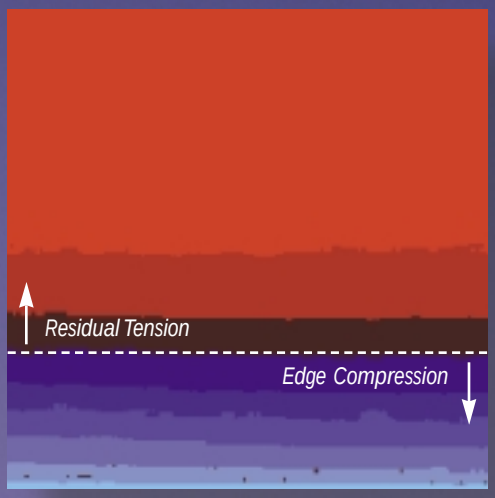
GFP 1000 Online

*Explore the **GFP 1000** online at StressPhotonics.com.*

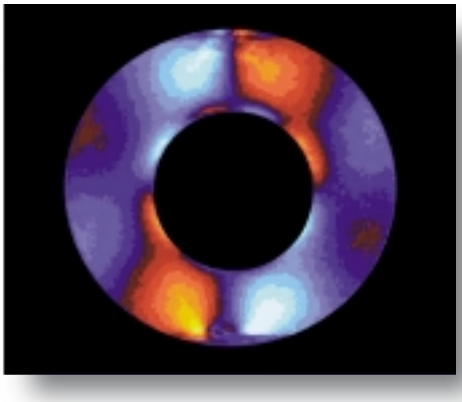
- *Online interactive tutorial*
- *Specific **GFP 1000** applications*
- *Technical Papers*
- *Full-color PSA images*

Applications

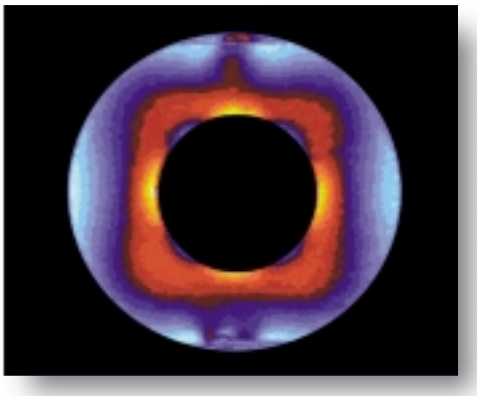
- *Verify FEA models*
- *Determine assembly stresses*
- *Strain analysis on stereolithography models*
- *Visualize residual strains in glass & plastic*



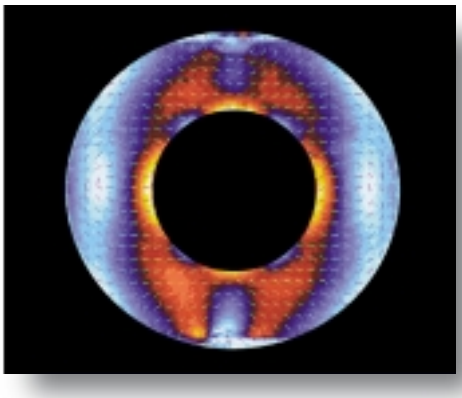
Edge Stress of a Windshield



Shear 0



Shear 45



Maximum Shear

TECHNICAL SPECIFICATIONS

System Performance	
Strain Resolution:	20με typical (1/100 fringe order)
Spatial Resolution:	320 × 240
Typical Image Acquisition Time:	10s
Image Acquisition:	PCI frame grabber card
Thickness Measurement: (with tinted coating)	± 5% accuracy

Camera	
Optics:	Standard camera lenses (e.g. 28-70mm zoom, 17mm, 90mm)
Detector:	CCD
Power:	100-250 VAC
Size: (Without lens)	20cm. × 9.5cm. × 9.5cm. (7.8in. × 3.75in. × 3.75in.)
Weight:	1.6 kg (3.5 lb) with lens

Projector	
Power:	100-250 VAC
Size:	23.2cm. × 9.5cm. × 9.5cm. (9.2in. × 3.75in. × 3.75in.)
Weight:	1.6 kg (3.5 lb)
Projected Light:	150W bulb

Computer Hardware and Software	
DELTAVISION Software:	Controls system parameters, image acquisition, and post-processing. Runs under Windows NT operating system.
System Computer:	Selection of notebook & desktop computers

Specifications subject to change without notice.

*The data acquired by the **GFP 1000** can take several valuable forms. The system produces two fundamental images referred to as Shear 0 and Shear 45. The Shear 0 image represents the in-plane shear strain on a 0° (horizontal) orientation. The Shear 45 image represents the in-plane shear strain on a 45° orientation. From these images and simple Mohr's circle definitions, the maximum in-plane shear and direction of the first principal strain are displayed.*

Learn more about the GFP 1000 as well as other exciting full-field stress and strain measurement products at StressPhotonics.com

GFP 1000
Stress Photonics Inc.
3002 Progress Road • Madison, WI 53716
Phone (608) 224-1230 • Fax (608) 224-1233
Email: info@StressPhotonics.com
http://www.StressPhotonics.com

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