

# Fine Wire Testing Services

Structural Testing of fine wire (such as nitinol) for the purpose of obtaining static stress and strain data or cyclic fatigue data.

## 1. Static Wire Tensile Experiment

Measuring the force to stretch wire is straightforward and is accomplished using a strain gauge style load cell mounted at the opposite end of a wire grip. If the wire is sufficiently strong and can support the weight of a clip-on strain gage extensometer, this is a simple approach for many static experiments; if not, a laser extensometer will be used. Tensile tests are performed by applying simple tension to the wire, and can measure a maximum of 3 strain levels up to 10 loadings and unloadings each. Alternatively, the wire can be pulled to failure. These tests take place under any temperature between -40 C and 150 C.

## 2. Wire Fatigue Experiment

Measuring the cyclic fatigue life of wire under cyclic loading conditions may be performed on a servo-hydraulic test instrument. Only at very low frequencies can a clip-on strain gage extensometer or a laser extensometer be used; at higher frequencies, we use a custom high bandwidth fiber optic based strain system that measures the movement of lightweight tags mounted to the wire. In so doing, we can measure frequencies up to 30 Hz at any given temperature between -40 C and 150 C.

## General Pricing for Fine Wire Testing Services

Prices are shown in US Dollars	Room Temp (23 C)	-40 C < Temp <150 C
<b>1. Static Wire Tensile Experiment</b>  <u>Simple Tension Test on Fine Wire</u> - 3 tests, up to 10 loadings and unloadings at max. 3 strain levels) - 3 tests, single pull to failure	315 315	450 450
<b>2. Wire Fatigue Experiment</b>  <u>Small Amplitude Wire Fatigue Experiment</u> 1 test in non-contacting strain control, Less than 30 Hz, less than 20 hours, using fiber optic sensors	900	1200

April 2004. Pricing subject to change.

Notes:

- a. These are typical wire testing experiments. Feel free to request a proposal for other interests or specifications (e.g. testing in saline solution), or for custom part testing.
- b. The data is delivered via e-mail in an ASCII format.
- c. Customer data and materials will be retained for 1 year after initial data delivery.

Purchase Order, VISA, MasterCard, AMEX, and Discover Card are accepted methods of payment.  
 Terms: NET 30 Days after Delivery of Data