



# **Compression Strength of Fresh Eggs**

## **Application Report**

#### **General**

The purpose of this test was to assess the ability of the In-Spec™ 2200 benchtop mechanical tester to perform strength tests on fresh eggs. This was done for demonstration purposes only.

### **Samples**

The eggs tested were fresh New England large brown eggs.

## **Testing**

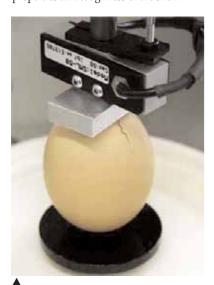
The tests were performed on an In-Spec 2200 benchtop tester in the vertical configuration, equipped with simple compression platens. The unit included a 50 lbs. load cell, with data acquisition via HandSpring® Visor. The tests were run at a speed of approximately 1.5 inches per minute. Tests 1 through 4 were run with the egg on its 'side', whereas tests 5 and 6 were performed with the egg held manually in a vertical position (as shown in the photo).

#### Results

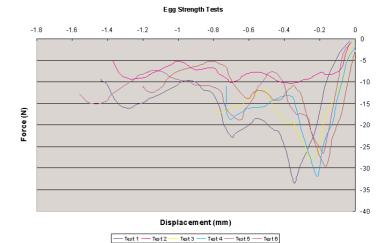
The graph shows the results of six tests. Note that there is virtually no difference between the side-on and the end-on tests. Test number 2 produced a low maximum force, and illustrates the effect of a weaker egg on the overall results.

#### Conclusion

With proper fixturing, the In-Spec 2200 benchtop is suitable for strength testing of fresh eggs, and can provide useful information as to the mechanical properties and toughness of the shell.



Close-up view of the egg compression test



Compression data transferred from the PDA and graphed in Excel



For testing eggs in the field where no AC power is available, there is a handheld version of the In-Spec 2200, which would produce the same information taken in the field.



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