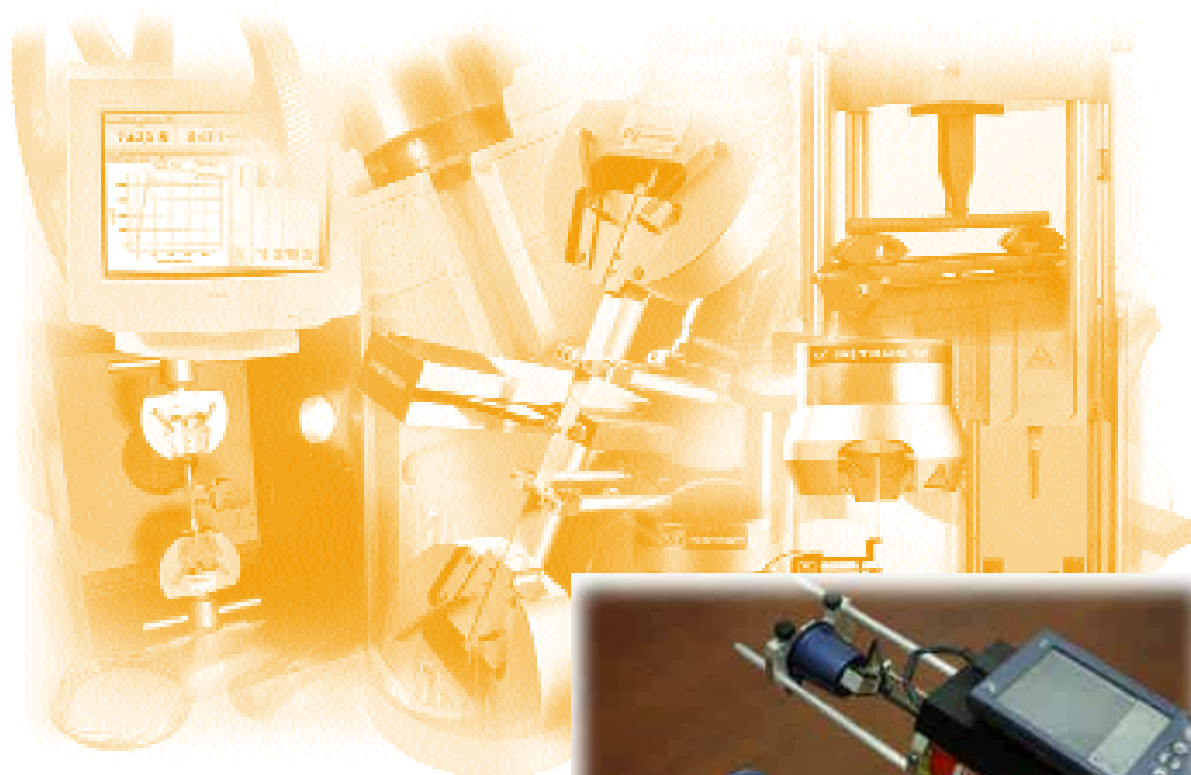


Application Report

Puncture Tests On Plastic Containers



General

The purpose of this test was to briefly assess the ability of the HandHeld Mechanical Tester to perform puncture tests on disposable plastic containers. This was done quickly, without any special fixturing, for demonstration purposes only.

Puncture Testing

Five puncture tests were performed on plastic containers. The fixturing consisted of a 1/16" shaft sharpened at roughly 45 degrees which was pressed into the bottom of the container slightly off center and retracted. The container was held against the crosshead by hand during the retraction process. Force, displacement, and time were measured continuously throughout the test.

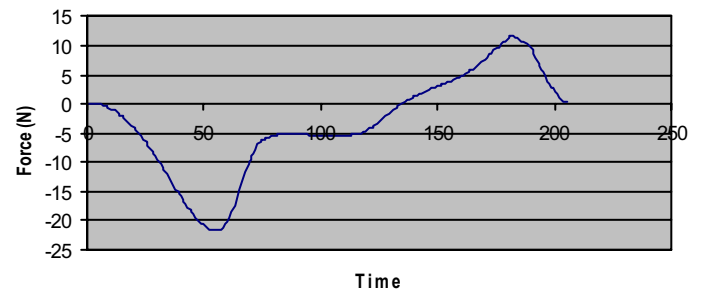
Results

Graphs show force vs. time for the puncture and retraction parts of the tests.

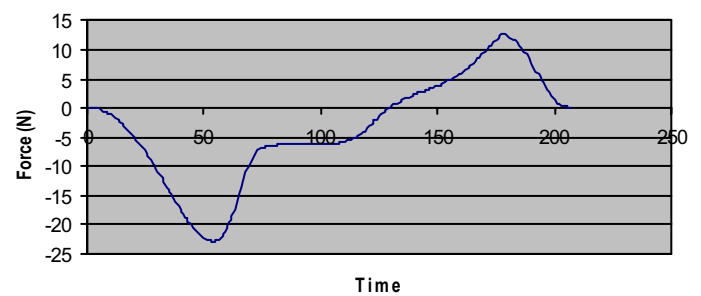
Conclusion

With proper fixturing, the HandHeld Tester would be able to perform puncture testing of plastic containers. Time would need to be spent developing techniques and test protocols to optimize test conditions, but even without these the instrument provides meaningful, repeatable information on the mechanical properties of these products.

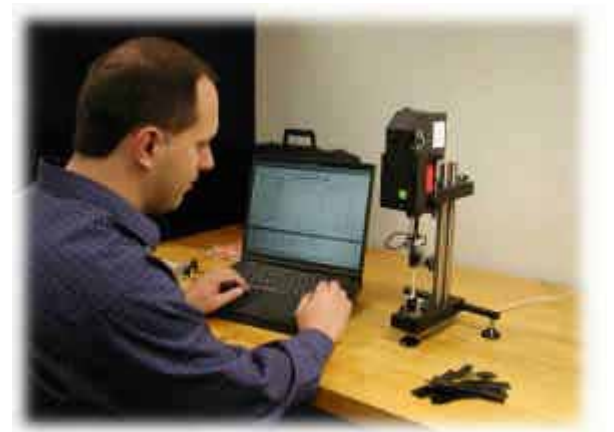
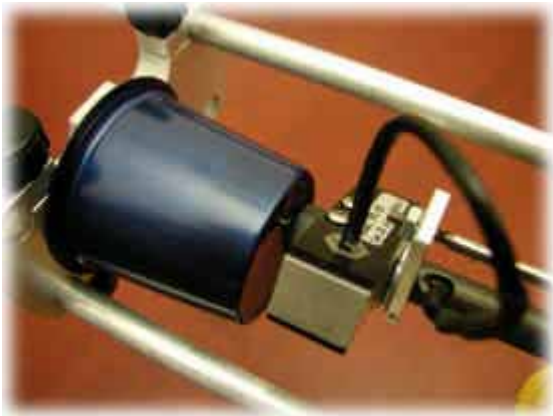
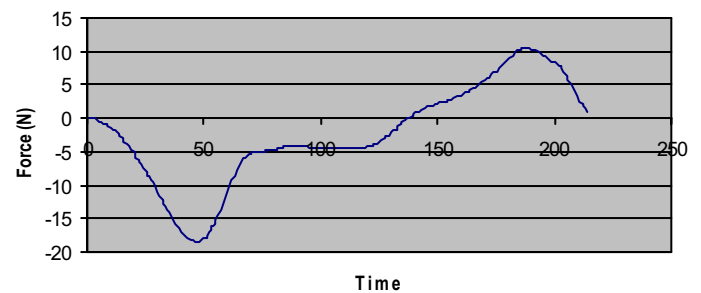
Puncture Test #2



Puncture Test #3



Puncture Test #5



▲ The Bench-Top version of the In-Spec 220 shown with Lap Top/Series IX data acquisition instead of PDA.