



Back Extrusion Of Pizza Dough

Application Report

General

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

Sample Preparation

The material tested was ordinary fresh pizza dough. The same specimen was used for tests 1.4, 1.5, and 1.6; a fresh sample was used for test 1.7.

Back Extrusion Testing

The tests were performed on an In-Spec 2200 benchtop tester in the vertical configuration, equipped with a custom-made back extrusion cell and plunger. The cell had internal dimensions of 50 mm (diameter) and 60 mm deep; the plunger had an OD of 40 mm. The unit was equipped with a 50 lbs (225 N) load cell, with data acquisition via HandSpring® Visor and aftermarket Targus keyboard. The tests were run at a speed of approximately 10 inches per minute.

Results

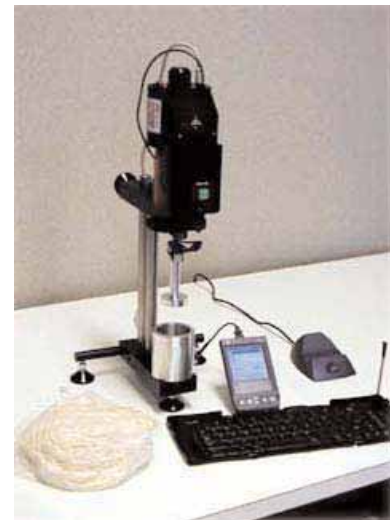
The graph shows the results of the four tests. The small amount of inconsistency between the shapes of the curves can be attributed to imperfections in the samples, with test 1.6 perhaps showing the effect of three prior runs. The sudden drop in steady state extrusion force suggested that there was a need for a fresh sample. A fresh sample was thus inserted and is presented as test 1.7.

Conclusion

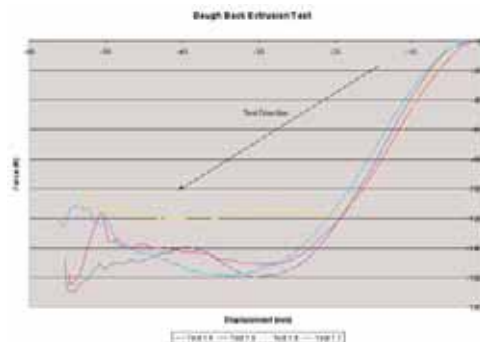
With proper fixturing, the In-Spec 2200 benchtop is suitable for back extrusion tests on dough, and can provide useful information as to the consistency and freshness of the samples tested.



▲ Close-up view of the back extrusion test on pizza dough



▲ Overall view of the In-Spec set-up for testing pizza dough



▲ Test data transferred from the PDA and graphed in Excel



Corporate Headquarters

825 University Avenue, Norwood, MA 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000 Fax: +1 781 575 5751

Instron Industrial Products

900 Liberty Street, Grove City, PA 16127-9969, USA
Tel: +1 724 458 9610 Fax: +1 724 478 9614

European Headquarters

Coronation Road, High Wycombe, Bucks HP12 3SY, United Kingdom
Tel: +44 1494 464646 Fax: +44 1494 456123