Measure of dough tenacity, extensibility, elasticity and baking strength

**International reference**
- Water absorption (WA), tenacity (P), extensibility (L), elasticity (I.e.), baking strength (W)
- Standardized analysis (AACC 54-30, ICC 121, NF EN-ISO 27971, GOST 51415-99) for commercial transactions

**Accurate and easy to use**
- Automated and fully controlled test conditions (temperature and hygrometry)
- Comprehensive software with a simple, modern and intuitive interface

**Versatile**
- Possibility to modify the test parameters to create personalized protocols, for example by varying the intensity and the duration of the mixing
- New results, new analysis protocols to meet the needs of the wheat industry

Test time: 40 minutes
Operator time: 20 minutes

80 Kg
220/240V - 50/60Hz 2300W

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The Alveograph test

The Alveograph test consists of producing a test piece of dough, which, under air pressure, turns into a **bubble**. This process reproduces the deformation of the dough when subject to carbon dioxide during **fermentation**.

The test involves 4 main steps:

1. **Mixing** flour and salted water
2. **Preparing** five calibrated pieces of dough
3. Putting these pieces of dough to rest
4. Automatically **inflating** each piece of dough until the resulting bubble bursts

The Alveograph measures the essential rheological characteristics of the dough:

- **P**: dough tenacity (aptitude to resist deformation)
- **L**: dough extensibility (maximum volume of air that the bubble is able to contain)
- **P/L**: configuration of the curve
- **I.e.**: elasticity index, I.e. = P200/P (P200: pressure at 4cm from the beginning of the curve)
- **W**: dough baking strength (surface under the curve)

**Why are these results important?**

The Alveograph produces results that serve as references for all of the cereal industry. These results allow controlled production processes and ensure quality of the final products.

**Use within the cereal industry**

**For Storage Operators**

- Secure the buying and selling of wheat and flour using an international reference
- Monitor wheat quality upon reception
- Select and classify wheats according to their future use
- Detect insect contaminated wheat

**For Millers**

- Optimize the blends of wheat and flour
- Adapt the flour for its final use by accurately measuring out additives and improvers
- Control the different flour fractions
- Use on durum wheat (*Triticum durum*): semolina protocol (standard UNI 10453)

**For Bakers**

- Monitor the conformity of incoming flour
- Test new compositions
- Control additives
Key functions and innovations

Control of the test conditions

- Thanks to automatic regulation of temperature and hygrometry in the test, the results are independent of environmental conditions, and therefore more accurate.

Cooling

- Cooling is assured by an integrated system (Peltier effect). Therefore, there is no need to connect the equipment to a cooling water system.

Instruments linked to PC software

- Test data is displayed live test after test
- A standard analysis certificate is automatically generated. Your company name and logo can easily be added.
- All data is backed up to assure perfect traceability.

Dough hydration

- At the beginning of the test, water is added automatically and very precisely.
- The temperature of the water tank is regulated.

Inflation of the dough pieces

- The positioning and the inflation of the dough pieces are automated, and carried out in a temperature and humidity controlled compartment.
- The inverted bubble is more spherical and closer to the ideal conditions of the test.

Extrusion and cutting of dough pieces

- Resting plates have a high-resistance anti-adhesive coating to facilitate the preparation of dough pieces.
- Dough cutter is semi-automatic and very easy to use.

Protocols

- New parameters, stress/strain and first derivative, are now calculated automatically.
- «Degradation», «relaxation» and «hybrid» protocols (a combination of different protocols, for example: alveo + relaxation) are pre-loaded in the software.
- Custom protocols can be created, for example, by varying the intensity and duration of the mixing. Consequently, the Alveograph test has even more predictive analysis of flour performances.

Blends

- Select up to 5 products and automatically find the most affordable blend that corresponds to your target Alveograph values.

Improver guide

- Helps you to quickly choose the most suitable additive to obtain target Alveograph values.

Virtual store

- Virtually attribute a product to a silo or a cell and enter its price.

Analysis traceability

- Monitor over time the quality of a specific product in relation to a given supplier or customer.
The AlveoLab is adapted for use in various applications. Some examples:

**Wheat selection**

Compare, select and classify the different batches of wheat available on the market according to their future use.

**Durum wheat (Triticum durum)**

The AlveoLab evaluates the tenacity of semolina intended for making pasta and determines the bread-making capacities of durum wheat flour (standard protocol UNI10 453).

**Wheat or flour blends**

In milling, wheat or flour is blended to adapt quality according to the future use. With the AlveoLab, calculate the right blend for making high quality products.

**Additives**

Optimize their usage by measuring their effects (cysteine, ascorbic acid, yeast, glucose, etc.) on the plastic properties of the dough.

**Proteases**

The hydrolysis of peptide bonds leads to a partial destruction of the gluten network. These effects are clearly shown on the AlveoLab results.

**Gluten**

The effects that gluten has on dough are easily detectable with the AlveoLab. For example, excess gluten results in high dough elasticity, and poor extensibility.

**Insect contaminated wheat**

The AlveoLab makes it possible to detect flour that has been produced with contaminated wheat.

And plenty more!

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**Available services**

**After Sales Service**

service@chopin.fr

Our service technicians guide you to guarantee optimal and durable use of your AlveoLab.

**CT Center**

cctcenter@chopin.fr

The CT Center offers you specific training, to improve your knowledge and get the most out of your AlveoLab.

**Applications Laboratory**

labo.applications@chopin.fr

Our experts are here to help you in developing new protocols, or in developing specific tests.

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