

# Enzymes

Enzymes play an essential role in the brewing process. Brewline® offers a range of enzyme preparations for process optimisation and beer quality.

## OUR ENZYMES

### OptiFan

#### Protease

OptiFan is an enzyme for the degradation of proteins in vegetable raw materials. OptiFan releases amino acids and peptides favourable to yeast nutrition during fermentation and prevents the formation of protein disorders in cereals.

- Dose: 15 - 25 mL / 100 kg\* of grain
- Optimum temperature: 60 - 70°C
- Optimal pH: 4,0 - 6,0

### Amyliz

#### Alpha-amylase

Amyliz liquefies starch into fermentable sugars and soluble dextrins, reduces wort viscosity and increases brewing yield. For use during mashing.

- Dose: 30 - 50 mL / 100 kg\* of grain
- Optimum temperature: 70 - 90°C
- Optimal pH: 4,5 - 7,5

### OptiArom

#### Beta-glucosidase

OptiArom is an enzyme preparation based on highly active  $\beta$ -glucosidase. By increasing the extraction rate of the active aromatic components of the hops, it promotes and amplifies the aromatic expression of your beer. OptiArom is particularly effective for "dry hopped" beers.

- Dose: 10 - 20 mL/hL
- Optimum temperature: 5 - 70°C
- Optimal pH: 4,0 - 6,0

\* Depending on the composition of the pour.

### OptiFlow

#### Beta-glucanase

OptiFlow hydrolyses clogging beta-glucans in the wort, optimises and reduces filtration time regardless of malt quality, facilitates whirlpool clarification. To be added to the mash water.

- Dose: 15 - 25 mL/100 kg\* of grain
- Optimum temperature: 60 - 70°C
- Optimal pH: 4,0 - 6,0

### Amyliz Max

#### Glucoamylase

Amyliz Max is a highly concentrated enzyme preparation of glucoamylase. It is an enzyme for the degradation of hydrolysed starch including dextrins, amylopectins into fermentable sugars.

- Dosage for increased saccharification during the brewing process:  
110 - 330 mL/t grain
- Dosage to decrease residual extract in beers:  
2 - 10 mL / 100 L wort/young beer
- Optimum temperature: 65°C
- Optimal pH: 3,8 - 4,2

#### Use

- **Preparation and storage:**  
Refer to the instructions on the data sheet or packaging.

#### Packaging

- Bottles of 1 kg.

For brewing use. Complies with EEC standards 93/34, 94/35-36, 95/2-31, with the specifications for enzymatic preparations for food use published by JECFA and FCC V, and with cGMP published by JECFA and FCC V, and FDA cGMP standards (21 CFR 110). Refer strictly to the legislation in force in the country of use.

**Brewline®**

Lamothe-Abiet, Z.A. Actipolis, Av. Ferdinand de Lesseps, 33610 Canéjan-Bordeaux, France - [www.brewline.eu](http://www.brewline.eu)

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