



## TECHNICAL DATA SHEET

# LONDON ESB ENGLISH-STYLE ALE YEAST

London ESB is a true English ale strain selected for reliable fermentation performance and moderate ester production that lets the flavors and aromas of malt and hops shine through. London ESB was selected from the Lallemand yeast culture library, and is an excellent choice not only for brewing Extra Special Bitter but for other authentic heritage UK styles like Pale Ale, Bitter and Mild. London ESB may also be used in the production of Ciders.



## MICROBIOLOGICAL PROPERTIES

Classified as a *Saccharomyces cerevisiae*, a top fermenting yeast.

Typical Analysis of London ESB yeast:

**Percent solids** 93% - 97%

**Living Yeast Cells**  $\geq 5 \times 10^9$  per gram of dry yeast

**Wild Yeast**  $< 1$  per  $10^6$  yeast cells

**Bacteria**  $< 1$  per  $10^6$  yeast cells

Finished product is released to the market only after passing a rigorous series of tests

\*According to the ASBC and EBC methods of analysis



## BREWING PROPERTIES

In Lallemand's Standard Conditions Wort at 20°C (68°F) London ESB yeast exhibits:

Vigorous fermentation that can be completed in 3 days

Medium attenuation and Low flocculation

Neutral to slightly fruity and estery flavor and aroma, allowing Malt aromas and flavors to shine through

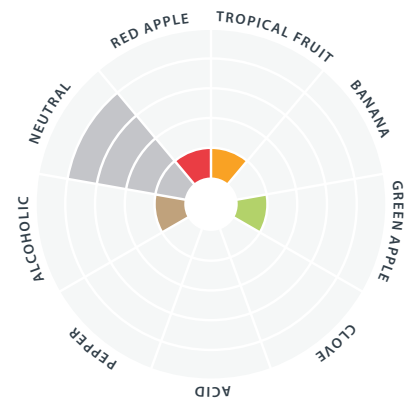
The optimal temperature range for London ESB yeast when producing traditional styles is 18°C(65°F) to 22°C(72°F)

London ESB does not utilize the sugar maltotriose (a molecule composed of 3 glucose units). Maltotriose is present in wort in an average 10-15% of all malt worts. The result will be fuller body and residual sweetness in beer. Be advised to adjust gravities and mash temperatures according to desired result.

Fermentation rate, fermentation time and degree of attenuation are dependent on inoculation density, yeast handling, fermentation temperature and nutritional quality of the wort. *If you have questions please do not hesitate to contact us at [brewing@lallemand.com](mailto:brewing@lallemand.com)*



## FLAVOR & AROMA



## QUICK FACTS

### BEER STYLES

English-style ales, pale ales

### AROMA

fruity, estery, malt

### ATTENUATION

medium

### FERMENTATION RANGE

18 - 22°C (65 - 72°F)

### FLOCCULATION

low

### ALCOHOL TOLERANCE

9% ABV

### PITCHING RATE

50 - 100g/hL to achieve a minimum of 2.5 - 5 million cells/mL



# LONDON ESB ENGLISH-STYLE ALE YEAST



## USAGE

Depending on the desired gravity of the beer, among other variables, different yeast pitching rates should be applied. For London ESB yeast, pitching rate varies between 50 grams and 100 grams of active yeast to inoculate 100 liters of wort.

A pitching rate of 50g per 100L of wort to achieve a minimum of 2.5 million viable cells per ml.

A pitching rate of 100g per 100L of wort to achieve a minimum of 5 million viable cells per ml.

The pitching rate may be adjusted to achieve a desired beer style or to suit processing conditions.

London ESB can be used in primary fermentation for beers up to 9% ABV. For beers above 9%, the yeast will require nutrient addition such as 1g/hL of Servomyces.

A pitching rate of 25g per 100L of Nottingham can be used in the production of Ciders.

*Find your exact recommended pitching rate with our Pitch Rate Calculator in our Brewers Corner at [www.lallemandbrewing.com](http://www.lallemandbrewing.com)*



## REHYDRATION

Rehydration of London ESB is recommended for use, and will reduce osmotic stress on the yeast when rehydrated and pitched in liquid form. Rehydration guidelines are quite simple, and present a much lower risk of contamination than a starter, which is unnecessary with dried active yeast.

Sprinkle the yeast on the surface of 10 times its weight in clean, sterilized water at 30-35°C (86-95F). Do not use wort, or distilled or reverse osmosis water, as loss in viability will result. **DO NOT STIR.** Leave undisturbed for 15 minutes, then stir to suspend yeast completely, and leave it for 5 more minutes at 30-35°C. Then adjust temperature to that of the wort and inoculate without delay.

Attemperate in steps at 5-minute intervals of 10°C to the temperature of the wort by mixing aliquots of wort. Do not allow attemperation to be carried out by natural heat loss. This will take too long and could result in loss of viability or vitality.

Temperature shock, at greater than 10°C, will cause formation of petite mutants leading to long-term or incomplete fermentation and possible formation of undesirable flavors.

London ESB yeast has been conditioned to survive rehydration. The yeast contains an adequate reservoir of carbohydrates and unsaturated fatty acids to achieve active growth. It is unnecessary to aerate wort upon first use.

When using Lallemand Brewing Yeasts, you may repitch the yeast just as you would any other type of yeast according to your brewery's SOP for yeast handling.



## STORAGE

London ESB yeast should be stored dry below 10°C (50°F).

London ESB will rapidly lose activity after exposure to air. Do not use 500g or 11g packs that have lost vacuum. Opened packs must be re-closed, stored in dry conditions below 4°C, and used within 3 days. If the opened package is re-vacuum sealed immediately after opening, yeast can be stored for up to two weeks below 4°C.

Do not use yeast after expiry date printed on the pack.

### CONTACT US

For more information, please visit us online at [www.lallemandbrewing.com](http://www.lallemandbrewing.com)

For any questions, you can also reach us via email at [brewing@lallemand.com](mailto:brewing@lallemand.com)