

# Extra Special Bitter (ESB) 12 BLG homebeer zestaw + mutacja

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **35**
- SRM **6.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4.3 liter(s) / kg**
- Mash size **27.1 liter(s)**
- Total mash volume **33.4 liter(s)**

## Steps

- Temp **63 C**, Time **45 min**
- Temp **73 C**, Time **15 min**
- Temp **79 C**, Time **15 min**

## Mash step by step

- Heat up **27.1 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **73C**
- Keep mash **15 min** at **79C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (63.5%)	80 %	5
Grain	Strzegom Monachijski typ II	1 kg (15.9%)	79 %	22
Grain	Strzegom cookie	0.2 kg (3.2%)	70 %	49
Grain	Viking Pale Ale malt	1 kg (15.9%)	80 %	5
Grain	Strzegom Karmel 150	0.1 kg (1.6%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	60 g	60 min	5.1 %
Boil	junga	15 g	10 min	11 %
Boil	Tradition	30 g	5 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM11 Wichrowe Wzgórza	Ale	Slant	1500 ml	Fermentum Mobile