

## esb

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **41**
- SRM **16.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **21.8 liter(s)**
- Total mash volume **28.4 liter(s)**

### Steps

- Temp **67 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

### Mash step by step

- Heat up **21.8 liter(s)** of strike water to **74.1C**
- Add grains
- Keep mash **30 min** at **67C**
- Keep mash **30 min** at **72C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (75.8%)	79 %	5
Grain	Słód Brown Thomas Fawcett	0.5 kg (7.6%)	70 %	200
Grain	Słód Cookie Viking Malt	0.5 kg (7.6%)	72 %	50
Grain	Czekoladowy ciemny VM	0.1 kg (1.5%)	68 %	900
Grain	Słód Karmelowy 50EBC	0.5 kg (7.6%)	75 %	50

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zula	30 g	60 min	7 %
Boil	Lublin (Lubelski)	30 g	60 min	4 %
Boil	Lublin (Lubelski)	40 g	30 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Fermentis