

# #1 ENGLISH BITTER

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- Gravity **12.6 BLG**
- ABV ---
- IBU **32**
- SRM **5.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.4 liter(s)**
- Total mash volume **25 liter(s)**

## Steps

- Temp **68 C**, Time **90 min**

## Mash step by step

- Heat up **19.4 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **90 min** at **68C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (90.1%)	79 %	6
Grain	Carahell	0.55 kg (9.9%)	77 %	26

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Bramling	30 g	30 min	6 %
Boil	Bramling	60 g	15 min	6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Liquid	30 ml	Fermentum Mobile