

## Bitter nr 2

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **38**
- SRM **8.8**
- 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 **70 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **17.9 liter(s)**
- Total mash volume **23.5 liter(s)**

### Steps

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

### Mash step by step

- Heat up **17.9 liter(s)** of strike water to **75.5C**
- Add grains
- Keep mash **90 min** at **68C**
- Sparge using **17.2 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2 kg (35.7%)	80 %	7
Grain	Simpsons - Golden Promise	1 kg (17.9%)	81 %	4
Grain	Żytni	1 kg (17.9%)	85 %	6
Grain	Fawcett Crystal Rye	0.1 kg (1.8%)	72 %	200
Grain	Strzegom Monachijski typ I	1 kg (17.9%)	79 %	14
Grain	Fawcett - Pale Crystal	0.5 kg (8.9%)	72.8 %	90

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	25 g	60 min	8 %
Boil	East Kent Goldings	20 g	60 min	7.5 %
Aroma (end of boil)	East Kent Goldings	10 g	20 min	7.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Slant	150 ml	Danstar