

## Bitter #2

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **36**
- SRM **12.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 liter(s)**

### Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **14.2 liter(s)**
- Total mash volume **19.8 liter(s)**

### Steps

- Temp **68 C**, Time **70 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **14.2 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **70 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.32 kg (76.2%)	80 %	5
Grain	Strzegom Pszeniczny	0.07 kg (1.2%)	81 %	6
Grain	Strzegom Karmel 150	0.43 kg (7.6%)	75 %	150
Grain	Strzegom Karmel 300	0.15 kg (2.6%)	70 %	299
Grain	Strzegom Monachijski typ I	0.7 kg (12.3%)	79 %	16

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	28.82 g	60 min	8.7 %
Boil	East Kent Goldings	12.97 g	30 min	5.1 %
Boil	East Kent Goldings	7.2 g	10 min	5.1 %