

## #35 Bitter

- Gravity **9 BLG**
- ABV **3.5 %**
- IBU **29**
- SRM **10.3**
- Style **Standard/Ordinary Bitter**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.6 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14.2 liter(s)**
- Total mash volume **18.2 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **14.2 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **26.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.25 kg (55.6%)	80 %	5
Grain	Karmelowy Czerwony	1 kg (24.7%)	75 %	59
Grain	Płatki owsiane	0.25 kg (6.2%)	85 %	3
Grain	Weyermann - Dehusked Carafo III	0.05 kg (1.2%)	70 %	1024
Grain	Pilzneński	0.5 kg (12.3%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Puławski	10 g	60 min	7 %
Boil	Puławski	10 g	45 min	7 %
Boil	Puławski	10 g	30 min	7 %
Boil	Puławski	10 g	15 min	7 %
Whirlpool	Puławski	10 g	15 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	300 ml	Fermentis