

## #139 Bitter v.3

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- Gravity **10 BLG**
- ABV **4 %**
- IBU **60**
- SRM **3.5**
- Style **Standard/Ordinary Bitter**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **4 %**
- Size with trub loss **25 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29.6 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **19.6 liter(s)** of **76C** water or to achieve **29.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Malteurop Lager	3.5 kg (87.3%)	82 %	3
Grain	Karmelowy Czerwony	0.21 kg (5.2%)	75 %	59
Grain	Malteurop Wheat	0.3 kg (7.5%)	86.8 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	60 min	15.5 %
Whirlpool	Nelson Sauvín	40 g	30 min	10.4 %
Boil	Nelson Sauvín	10 g	10 min	10.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast-1469 West Yorkshire Ale	Ale	Slant	200 ml	---