

## Pale Ale

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **47**
- SRM **4.9**
- Style **English IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.2 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

### Steps

- Temp **68 C**, Time **70 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **70 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **16.2 liter(s)** of **76C** water or to achieve **24.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.2 kg (80%)	88 %	7
Grain	Monachijski	0.6 kg (15%)	87 %	16
Grain	viking Caramel Pale	0.2 kg (5%)	85 %	8

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Phoenix	30 g	50 min	11 %
Aroma (end of boil)	Progress	40 g	10 min	5.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M36 Liberty Bell Ale	Ale	Dry	10 g	Mangrove Jack's