

## Pale ALE

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **37**
- SRM **10.9**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

### Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **15 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **78C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	1.5 kg (33.3%)	82 %	4
Grain	Viking Pale Ale malt	2.5 kg (55.6%)	80 %	5
Grain	Strzegom Karmel 150	0.5 kg (11.1%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	11 %
Aroma (end of boil)	Saaz (Czech Republic)	20 g	10 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	---