

## Pale ALE USA

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **36**
- SRM **8.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.8 liter(s)**
- Total mash volume **25 liter(s)**

### Steps

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

### Mash step by step

- Heat up **18.8 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **78C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzniejszy	4.5 kg (72%)	80 %	4
Grain	Pszenica niesłodowana	1 kg (16%)	75 %	3
Grain	Viking Wędzony torfem	0.5 kg (8%)	81 %	7
Grain	Strzegom Karmel 300	0.25 kg (4%)	70 %	299

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Belma	30 g	60 min	9.4 %
Aroma (end of boil)	Belma	30 g	10 min	9.4 %
Aroma (end of boil)	Willamette	15 g	5 min	5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	500 ml	---