

PA PA APA

- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **42**
- SRM **3.3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **25 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **13.5 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **25 min** at **64C**
- Keep mash **25 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **22.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (88.9%)	80 %	5
Grain	Pszeniczny	0.5 kg (11.1%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	14 g	60 min	14.2 %
Boil	Cascade	29 g	30 min	7.7 %
Boil	Summit	20 g	5 min	14.3 %
Whirlpool	Cascade	25 g	0 min	7.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	5 g	---