

## QAPA pl #2

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- Gravity **9.5 BLG**
- ABV **3.7 %**
- IBU **58**
- SRM **6.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **1 %**
- Size with trub loss **12.5 liter(s)**
- Boil time **45 min**
- Evaporation rate **12 %/h**
- Boil size **15.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.2 liter(s)**
- Total mash volume **9.6 liter(s)**

### Steps

- Temp **66 C**, Time **75 min**
- Temp **75 C**, Time **10 min**

### Mash step by step

- Heat up **7.2 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **10 min** at **75C**
- Sparge using **10.8 liter(s)** of **76C** water or to achieve **15.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale Malt	2.2 kg (91.7%)	80 %	15
Grain	Acidulated (Weyermann)	0.2 kg (8.3%)	65.2 %	8

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pulawski	15 g	30 min	7.5 %
Boil	Zula	15 g	30 min	7 %
Boil	Hallertauer Tradition	10 g	15 min	3.8 %
Boil	Pulawski	10 g	15 min	7.5 %
Boil	Zula	10 g	15 min	7 %
Boil	Hallertauer Tradition	10 g	5 min	3.8 %
Boil	Pulawski	10 g	5 min	7.5 %
Boil	Zula	10 g	5 min	7 %
Boil	Hallertauer Tradition	10 g	0 min	3.8 %
Boil	Pulawski	10 g	0 min	7.5 %
Boil	Zula	10 g	0 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM53 Voss Kveik	Ale	Liquid	50 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips (Calcium Sulfate)	4 g	Mash	60 min
Water Agent	Siarczan Magnezu (MgSO4)	4 g	Mash	60 min
Water Agent	Chlorek Wapnia	2.87 g	Mash	60 min
Water Agent	Phosphoric Acid 85%	1.27 g	Mash	60 min
Water Agent	Sól	1.24 g	Mash	60 min