

## single hop

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **22**
- SRM **4**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **40 min** at **64C**
- Keep mash **25 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.5 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (97.1%)	80 %	5
Adjunct	Pszenica niesłodowana	0.15 kg (2.9%)	75 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Ahtanum	25 g	60 min	5 %
Boil	Ahtanum	10 g	30 min	5 %
Boil	Ahtanum	20 g	15 min	5 %
Aroma (end of boil)	Ahtanum	35 g	0 min	5 %
Dry Hop	Ahtanum	50 g	5 day(s)	5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
fm 52	Ale	Liquid	1000 ml	---