

## Otwarcie 4.0

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **43**
- SRM **3.9**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **10 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **34.5 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

### Steps

- Temp **64 C**, Time **25 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **18 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **25 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **22.5 liter(s)** of **76C** water or to achieve **34.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	6 kg (100%)	80 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mosaic	15 g	60 min	12 %
Boil	Mosaic	20 g	30 min	12 %
Aroma (end of boil)	Mosaic	25 g	15 min	12 %
Whirlpool	Mosaic	70 g	0 min	12 %
Dry Hop	Mosaic	70 g	14 day(s)	12 %

### Yeasts

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