

- Gravity **13.8 BLG**
- ABV ---
- IBU **22**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **75 min**
- Evaporation rate **5 %/h**
- Boil size **24.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.6 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **24.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.5 kg (48.1%)	80 %	5
Grain	Strzegom Pilzneński	2.5 kg (48.1%)	80 %	4
Grain	Karmelowy Jasny 30EBC	0.2 kg (3.8%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Lemon drop	30 g	5 min	4.6 %
Dry Hop	Waimea	50 g	3 day(s)	17 %
Boil	calypso	10 g	45 min	14 %
Whirlpool	calypso	40 g	5 min	14 %

Yeasts

Name	Type	Form	Amount	Laboratory
jack's M36	Ale	Dry	10 g	---