APAsz

- Gravity **13.8 BLG**
- ABV **---**
- IBU **43**
- SRM **6.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **40 min**
- Evaporation rate **12 %/h**
- Boil size **29.1 liter(s)**

Mash information

- Mash efficiency **92 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

Steps

- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **18.5 liter(s)** of **76C** water or to achieve **29.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.5 kg *(84.9%)*	80 %	5
Grain	Cookie Viking Malt	0.5 kg *(9.4%)*	77 %	70
Grain	Słód pszeniczny Bestmalz	0.3 kg *(5.7%)*	82 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zeus	25 g	40 min	14 %
Boil	Summit	20 g	10 min	15.5 %
Whirlpool	Amarillo	20 g	20 min	9.5 %
Dry Hop	Amarillo	75 g	3 day(s)	9.5 %
Dry Hop	Summit	25 g	3 day(s)	15.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M66	Ale	Slant	100 ml	---

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Type	Name	Amount	Use for	Time
Fining	Whirlfloc	5 g	Boil	10 min