

Whirlpool

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **24**
- SRM **5.6**
- 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 **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

Steps

- Temp **66 C**, Time **60 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (94.3%)	80 %	5
Grain	Karmelowy Czerwony	0.3 kg (5.7%)	75 %	59

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mosaic	15 g	60 min	10 %
Boil	Centennial	10 g	10 min	10.5 %
Boil	Amarillo	10 g	10 min	9.5 %
Whirlpool	Citra	20 g	0 min	12 %
Whirlpool	Amarillo	20 g	0 min	9.5 %
Whirlpool	Centennial	20 g	0 min	10.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	Mangrove Jack's