

APA

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **45**
- SRM **4.9**
- 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 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **65 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **50 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.3 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	3 kg (60%)	80 %	7
Grain	Viking Pilsner malt	1 kg (20%)	82 %	4
Grain	viking malt żytni	0.25 kg (5%)	80 %	10
Grain	Viking Munich Malt	0.5 kg (10%)	78 %	10
Grain	viking malt carabody	0.25 kg (5%)	80 %	8

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Falconer's Flight	10 g	50 min	10.5 %
Boil	Amarillo	15 g	30 min	9.5 %
Aroma (end of boil)	Falconer's Flight	20 g	15 min	10.5 %
Aroma (end of boil)	Amarillo	15 g	5 min	9.5 %
Whirlpool	Falconer's Flight	20 g	5 min	10.5 %
Whirlpool	Amarillo	20 g	5 min	9.5 %
Whirlpool	Azacca	20 g	5 min	14 %
Dry Hop	Amarillo	50 g	3 day(s)	9.5 %
Dry Hop	Azacca	70 g	3 day(s)	14 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM11 Wichrowe Wzgórza	Ale	Liquid	40 ml	Fermentum Mobile