

APA

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **72**
- 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 **60 min**
- Evaporation rate **8 %/h**
- Boil size **24.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **11.3 liter(s)**
- Total mash volume **15.8 liter(s)**

Steps

- Temp **67 C**, Time **60 min**

Mash step by step

- Heat up **11.3 liter(s)** of strike water to **76.4C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **24.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (66.7%)	80 %	5
Grain	Strzegom Wiedeński	1.5 kg (33.3%)	79 %	10

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zeus	20 g	60 min	15.7 %
Boil	Centennial	20 g	10 min	9.5 %
Aroma (end of boil)	Zythos	10 g	0 min	15.7 %
Boil	Columbus	20 g	30 min	12.4 %
Boil	Cascade	15 g	20 min	7.1 %
Aroma (end of boil)	Centennial	20 g	0 min	9.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM53 Voss kveik	Ale	Slant	500 ml	FM