

Apa

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **37**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.7 liter(s)**
- Total mash volume **24.1 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **30 min**

Mash step by step

- Heat up **18.7 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **30 min** at **72C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (93.5%)	80 %	5
Grain	Słód pszeniczny Bestmalz	0.2 kg (3.7%)	82 %	5
Grain	Strzegom Karmel 30	0.15 kg (2.8%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	5 g	30 min	12 %
Boil	Citra	15 g	15 min	12 %
Boil	Amarillo	15 g	15 min	9.5 %
Aroma (end of boil)	Citra	30 g	5 min	12 %
Aroma (end of boil)	Amarillo	40 g	5 min	9.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	100 ml	Fermentis