

Koniec Lata

- Gravity **12.1 BLG**
- ABV ---
- IBU **64**
- SRM **6.5**
- 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 **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.7 liter(s)**
- Total mash volume **15.6 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **11.7 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (89.7%)	80 %	5
Grain	Biscuit Malt	0.4 kg (10.3%)	79 %	45

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	14 %
Boil	Columbus/Tomahawk/Zeus	17 g	15 min	14 %
Boil	Amarillo	25 g	10 min	8.6 %
Boil	Amarillo	25 g	5 min	8.6 %
Dry Hop	Amarillo	50 g	7 day(s)	8.6 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11 g	---