

Kamil

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **37**
- SRM **7.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **64.5 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **27.2 liter(s)**

Steps

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

Mash step by step

- Heat up **20.4 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **18.1 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5.92 kg (87%)	80 %	5
Grain	Viking Munich Malt	0.59 kg (8.7%)	78 %	18
Grain	Viking Carmel Malt 150	0.3 kg (4.3%)	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	30.26 g	30 min	11.2 %
Boil	Cascade	39.47 g	15 min	5.5 %
Aroma (end of boil)	Cascade	39.47 g	5 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	28.95 g	Fermentis