

#? APA SH?

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **44**
- SRM **7.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **15.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.55 liter(s) / kg**
- Mash size **11.9 liter(s)**
- Total mash volume **15.2 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **11.9 liter(s)** of strike water to **73.6C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **75C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **15.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (89.6%)	78 %	6.5
Grain	Abbey Castle/melanoidynowy	0.1 kg (3%)	80 %	45
Grain	Caramel/Crystal Malt 160	0.1 kg (3%)	72 %	160
Grain	Carahell	0.15 kg (4.5%)	77 %	26

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	12 %
Boil	??	20 g	10 min	10 %
Aroma (end of boil)	??	30 g	5 min	10 %
Dry Hop	??	30 g	2 day(s)	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	6 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips piwowarski	1.5 g	Boil	30 min