

APA

- Gravity **13.3 BLG**
- ABV ---
- IBU **64**
- SRM **4.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **45 liter(s)**
- Trub loss **5 %**
- Size with trub loss **47.3 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **57.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **32.4 liter(s)**
- Total mash volume **43.2 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **32.4 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **0 min** at **78C**
- Sparge using **36.2 liter(s)** of **76C** water or to achieve **57.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	6 kg (55.6%)	81 %	4
Grain	Viking Pale Ale malt	3 kg (27.8%)	80 %	6
Grain	Weyermann - Carapils	0.5 kg (4.6%)	78 %	4
Grain	Żytni	0.3 kg (2.8%)	85 %	8
Grain	Płatki owsiane	1 kg (9.3%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	30 g	50 min	15.5 %
Boil	Amarillo	10 g	25 min	9.5 %
Boil	Citra	10 g	25 min	12 %
Boil	Galaxy	10 g	25 min	15 %
Boil	Centennial	10 g	25 min	10.5 %
Boil	Amarillo	30 g	10 min	9.5 %
Boil	Galaxy	30 g	10 min	15 %
Boil	Citra	30 g	10 min	12 %
Boil	Centennial	20 g	10 min	10.5 %

Whirlpool	Amarillo	20 g	1 min	9.5 %
Whirlpool	Galaxy	20 g	1 min	15 %
Whirlpool	Citra	20 g	1 min	12 %
Whirlpool	Centennial	20 g	1 min	10.5 %
Dry Hop	Amarillo	30 g	3 day(s)	9.5 %
Dry Hop	Galaxy	30 g	3 day(s)	15 %
Dry Hop	Citra	30 g	3 day(s)	12 %
Dry Hop	Centennial	50 g	3 day(s)	10.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	---

Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	4 g	Boil	60 min