

s/m apa

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **89**
- SRM **6.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **18 %/h**
- Boil size **35.4 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **25.8 liter(s)** of **76C** water or to achieve **35.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3 kg (62.5%)	85 %	7
Grain	Monachijski typ II 20-25 EBC Weyermann	1 kg (20.8%)	80 %	20
Grain	płatki żytnie	0.4 kg (8.3%)	85 %	3
Grain	Płatki owsiane	0.2 kg (4.2%)	85 %	3
Grain	Słód Caramunich Typ II Weyermann	0.2 kg (4.2%)	73 %	120

Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Columbus/Tomahawk/Zeus	10 g	60 min	14.4 %
Boil	Simcoe	20 g	30 min	13.3 %
Boil	Amarillo	20 g	30 min	7.4 %
Boil	Simcoe	30 g	15 min	13.3 %
Boil	Amarillo	30 g	15 min	7.4 %
Boil	Simcoe	50 g	5 min	13.3 %
40 min 80st >				
Boil	Amarillo	50 g	5 min	7.4 %

Dry Hop	Simcoe	100 g	5 day(s)	13.3 %
Dry Hop	Amarillo	100 g	5 day(s)	7.4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale