

APA

- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **51**
- SRM **4.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **7 %**
- Size with trub loss **21.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **26.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **13.4 liter(s)** of **76C** water or to achieve **26.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	3 kg (66.7%)	80 %	7
Grain	Briess - Wheat Malt, White	1 kg (22.2%)	85 %	5
Grain	Weyermann - Spelt Malt	0.5 kg (11.1%)	81 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Summit	60 g	10 min	17 %
Aroma (end of boil)	Cascade	30 g	10 min	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	10 g	Safale