

HAPA

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **43**
- SRM **5.2**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **38 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **25.5 liter(s)**
- Total mash volume **34 liter(s)**

Steps

- Temp **68 C**, Time **90 min**

Mash step by step

- Heat up **25.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Sparge using **21 liter(s)** of **76C** water or to achieve **38 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	6.5 kg (76.5%)	80 %	7
Grain	Strzegom Pszeniczny	1 kg (11.8%)	81 %	6
Grain	Strzegom Pilzniejszy	1 kg (11.8%)	80 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	45 g	60 min	12.5 %
Boil	Sterling	20 g	30 min	4.5 %
Mash	Sterling	20 g	10 min	4.5 %

Yeasts

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