APA

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **22**
- SRM **4.1**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **7 %**
- Size with trub loss **26.9 liter(s)**
- Boil time **30 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **24.3 liter(s)**

Steps

- Temp **69 C**, Time **60 min**

Mash step by step

- Heat up **18.9 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **69C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Maris Otter - Pale Ale	5 kg *(92.6%)*	80.3 %	6
Grain	Płatki pszeniczne	0.4 kg *(7.4%)*	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	20 min	13.5 %
Boil	Cascade	30 g	10 min	6 %
Boil	Centennial	50 g	2 min	10.5 %