

PAPA

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **37**
- SRM **5.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **7 %**
- Size with trub loss **12.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **14 liter(s)**

Steps

- Temp **52 C**, Time **7 min**
- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **10.5 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **7 min** at **52C**
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **8.4 liter(s)** of **76C** water or to achieve **15.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (85.7%)	80 %	5
Grain	Strzegom Monachijski typ II	0.4 kg (11.4%)	79 %	22
Grain	Pszeniczny	0.1 kg (2.9%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	10 g	30 min	11 %
Aroma (end of boil)	Zula	15 g	20 min	8.3 %
Aroma (end of boil)	Zula	15 g	7 min	8.3 %
Boil	Książęcy	10 g	7 min	7 %
Whirlpool	Zula	25 g	0 min	8.3 %
30min 80°C				
Whirlpool	Książęcy	15 g	0 min	7 %
30min 80°C				
Whirlpool	Tomyski	15 g	0 min	2.8 %

30min 80°C

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	300 ml	Safale