

Pale Ale

- Gravity **12.3 BLG**
- ABV ---
- IBU **31**
- SRM **17.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **21.6 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **16.8 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **75C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale	4 kg (83.3%)	80 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (10.4%)	79 %	16
Grain	Karmelowy ciemny	0.3 kg (6.3%)	71 %	500

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mandarina Bavaria	30 g	60 min	8 %
Aroma (end of boil)	Mandarina Bavaria	40 g	5 min	8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis