

Polak

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **36**
- SRM **3.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20.6 liter(s)**

Steps

- Temp **67 C**, Time **60 min**

Mash step by step

- Heat up **16 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.5 kg (54.6%)	81 %	4
Grain	Pszeniczny	2 kg (43.7%)	85 %	4
Grain	Karmelowy Jasny 30EBC	0.08 kg (1.7%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	zula	20 g	60 min	10 %
Whirlpool	ksiazecy	30 g	20 min	9 %
Whirlpool	zula	20 g	20 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Slant	150 ml	---