

## Full Aroma Hops (polskie ale)

- Gravity **12.1 BLG**
- ABV ---
- IBU **43**
- SRM **4.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **7 %/h**
- Boil size **25.4 liter(s)**

### Mash information

- Mash efficiency **66 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

### Steps

- Temp **40 C**, Time **0 min**
- Temp **61 C**, Time **10 min**
- Temp **71 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **17.5 liter(s)** of strike water to **42.9C**
- Add grains
- Keep mash **0 min** at **40C**
- Keep mash **10 min** at **61C**
- Keep mash **45 min** at **71C**
- Keep mash **10 min** at **76C**
- Sparge using **12.9 liter(s)** of **76C** water or to achieve **25.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	70 min	10 %
Boil	Lublin (Lubelski)	30 g	45 min	4 %
Boil	Lublin (Lubelski)	15 g	5 min	4 %
Boil	Marynka	10 g	5 min	10 %
Dry Hop	Lublin (Lubelski)	45 g	7 day(s)	4 %

### Yeasts

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