

## polskie ale 3

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **24**
- SRM **4**

### Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **40.5 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **23.5 liter(s)**
- Total mash volume **30.2 liter(s)**

### Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **23.5 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **23.7 liter(s)** of **76C** water or to achieve **40.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	6.25 kg (93%)	81 %	4
Grain	Karmelowy Jasny 30EBC	0.32 kg (4.8%)	75 %	30
Grain	Carabelge	0.15 kg (2.2%)	80 %	35

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	18 g	60 min	10.5 %
Boil	East Kent Goldings	25 g	20 min	5.4 %
Boil	East Kent Goldings	25 g	10 min	5.4 %
Boil	Saaz (Czech Republic)	20 g	10 min	3.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
fm52	Ale	Liquid	10001700 ml	fm