

## Polskie ale

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **29**
- SRM **4.7**

### Batch size

- Expected quantity of finished beer **140 liter(s)**
- Trub loss **0 %**
- Size with trub loss **140 liter(s)**
- Boil time **90 min**
- Evaporation rate **5 %/h**
- Boil size **158 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **100.5 liter(s)**
- Total mash volume **134 liter(s)**

### Steps

- Temp **52 C**, Time **5 min**
- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **100.5 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **91 liter(s)** of **76C** water or to achieve **158 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	30 kg (89.6%)	75 %	4
Grain	Strzegom Karmel 30	2.5 kg (7.5%)	75 %	30
Grain	Zakwaszający	1 kg (3%)	80 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	150 g	60 min	8.8 %
Boil	Lublin (Lubelski)	175 g	15 min	4 %
Boil	Lublin (Lubelski)	75 g	5 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	34.5 g	Danstar
us-05	Ale	Dry	11.5 g	Fermentis
us-04	Ale	Dry	11.5 g	Fermentis