

## Alternatywy 4

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- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **26**
- SRM **9.1**
- Style **Northern German Altbier**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **21.5 liter(s)**

### Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **16.5 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2 kg (40%)	81 %	4
Grain	Briess - Pale Ale Malt	2 kg (40%)	80 %	7
Grain	Strzegom Monachijski typ I	0.5 kg (10%)	79 %	16
Grain	Karmelowy Strzegom	0.5 kg (10%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	40 min	13.5 %
Boil	Oktawia	15 g	20 min	7.8 %
Dry Hop	Oktawia	10 g	7 day(s)	7.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Gęstwa	Ale	Slant	200 ml	---