

## 5# Altbier

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **23**
- SRM **6.6**
- Style **Düsseldorf Altbier**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **32.2 liter(s)**

### Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **2.75 liter(s) / kg**
- Mash size **15.1 liter(s)**
- Total mash volume **20.6 liter(s)**

### Steps

- Temp **68 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15.1 liter(s)** of strike water to **76.7C**
- Add grains
- Keep mash **40 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **22.6 liter(s)** of **76C** water or to achieve **32.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	3.25 kg (59.1%)	80 %	16
Od początku				
Grain	Strzegom Wiedeński	1.75 kg (31.8%)	79 %	10
Od początku				
Grain	Viking Pilsner malt	0.5 kg (9.1%)	82 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	50 g	60 min	4 %
Boil	Hersbrucker	25 g	40 min	3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale