

#15 Altbier

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **32**
- SRM **10.8**
- Style **Northern German Altbier**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **0 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.6 liter(s)**

Mash information

- Mash efficiency **79.5 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **56 C**, Time **0 min**
- Temp **65 C**, Time **30 min**
- Temp **73 C**, Time **50 min**
- Temp **75 C**, Time **0 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **62C**
- Add grains
- Keep mash **0 min** at **56C**
- Keep mash **30 min** at **65C**
- Keep mash **50 min** at **73C**
- Keep mash **0 min** at **75C**
- Sparge using **17 liter(s)** of **76C** water or to achieve **26.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słodownia Strzegom - monachijski I	4.3 kg (89.6%)	79 %	12
Grain	Caramunich Malt	0.4 kg (8.3%)	71.7 %	110
Grain	Słodownia Strzegom - czekoladowy 400	0.1 kg (2.1%)	70 %	350

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Spalt	80 g	60 min	3.3 %
Boil	Spalt	20 g	15 min	3.3 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM13 - Irlandzkie ciemno?ci	Ale	Culture	--- g	Fermentum Mobile