

Altbier

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **49**
- SRM **9**
- 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 **3 liter(s) / kg**
- Mash size **15.1 liter(s)**
- Total mash volume **20.2 liter(s)**

Steps

- Temp **63 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 **70.2C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **22.1 liter(s)** of **76C** water or to achieve **32.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	1.75 kg (34.7%)	79 %	10
Od początku				
Grain	Monachijski	3.25 kg (64.5%)	80 %	16
Od początku				
Grain	Strzegom Barwiący	0.038 kg (0.8%)	68 %	1300
Przy 78C				

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	69 g	60 min	7 %
Boil	Hersbrucker	25 g	40 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale K-97	Ale	Dry	11.5 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Fining	Whirflock	2.5 g	Boil	20 min