

# Altbier

- Gravity **12.1 BLG**
- ABV ---
- IBU **37**
- SRM **10.8**
- Style **Düsseldorf Altbier**

## Batch size

- Expected quantity of finished beer **31 liter(s)**
- Trub loss **5 %**
- Size with trub loss **32.5 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **40.9 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **24.2 liter(s)**
- Total mash volume **30.3 liter(s)**

## Steps

- Temp **38 C**, Time **0 min**
- Temp **66 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **24.2 liter(s)** of strike water to **40.3C**
- Add grains
- Keep mash **0 min** at **38C**
- Keep mash **90 min** at **66C**
- Keep mash **10 min** at **78C**
- Sparge using **22.8 liter(s)** of **76C** water or to achieve **40.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	5.5 kg (90.9%)	80 %	16
Grain	Caramunich® typ I	0.5 kg (8.3%)	73 %	80
Grain	Weyermann - Dehusked Carafa II	0.05 kg (0.8%)	70 %	1000

## Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Magnum	20 g	100 min	13.5 %
Boil	Hallertau	30 g	60 min	4.5 %
Boil	Hallertau	20 g	15 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP011 - European Ale Yeast	Ale	Liquid	125 ml	White Labs