

# Altbier

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- Gravity **11.4 BLG**
- ABV ---
- IBU **39**
- SRM **11.5**
- Style **Düsseldorf Altbier**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **16.1 liter(s)**
- Total mash volume **20.9 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **16.1 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **76C**
- Sparge using **17.7 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4.6 kg (96.8%)	80 %	4
Grain	Karmelowy żytni Strzegom	0.1 kg (2.1%)	75 %	150
Grain	Strzegom Czekoladowy 1200	0.05 kg (1.1%)	68 %	1202

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	25 g	60 min	13.5 %
Boil	Spalt	20 g	5 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11.5 g	Fermentis