

# Alt bier

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- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **28**
- SRM **6.7**
- Style **Northern German Altbier**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **1 %**
- Size with trub loss **25.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **1 %/h**
- Boil size **26.1 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **14.8 liter(s)**
- Total mash volume **19.4 liter(s)**

## Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **14.8 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **15.8 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	3 kg (66.7%)	80 %	16
Grain	Pilzneński	1 kg (22.2%)	81 %	4
Grain	Karmelowy Jasny 30EBC	0.5 kg (11.1%)	75 %	30

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	13.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
S-33	Ale	Dry	11.5 g	Safbrew