

# ALTBIER

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **52**
- SRM **11.7**
- Style **Düsseldorf 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 **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **50 min**
- Temp **75 C**, Time **5 min**

## Mash step by step

- Heat up **13.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **50 min** at **72C**
- Keep mash **5 min** at **75C**
- Sparge using **17.4 liter(s)** of **76C** water or to achieve **26.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	4 kg (87.1%)	80 %	16
Grain	Caramel Munich I Bestmalz	0.1 kg (2.2%)	75 %	90
Grain	Carafa Special I	0.04 kg (0.9%)	65 %	900
Grain	Słód Caramunich Typ II Weyermann	0.15 kg (3.3%)	73 %	120
Grain	Biscuit Malt	0.2 kg (4.4%)	79 %	45
Grain	Amber	0.1 kg (2.2%)	73 %	120

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	25 g	60 min	13 %
Boil	Hallertau Spalt Select	20 g	30 min	4.7 %
Boil	Hallertau Spalt Select	30 g	15 min	4.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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FM42 Stare Nadreńskie	Ale	Slant	150 ml	Fermentum Mobile
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