

Altbier

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **34**
- SRM **13.5**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **10 %**
- Size with trub loss **46 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **55.2 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **32.6 liter(s)**
- Total mash volume **43.5 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **50 min**
- Temp **76 C**, Time **2 min**

Mash step by step

- Heat up **32.6 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **50 min** at **72C**
- Keep mash **2 min** at **76C**
- Sparge using **33.5 liter(s)** of **76C** water or to achieve **55.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Munich Malt 10L	10 kg (91.9%)	77 %	20
Grain	CaraMunich Type 2 - Weyermann	0.8 kg (7.4%)	71.7 %	120
Grain	Weyermann - Dehusked Carafa II	0.08 kg (0.7%)	70 %	837

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	140 g	60 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP029 - German Ale/Kölsch Yeast	Ale	Liquid	100 ml	White Labs