ALTBIER

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **41**
- SRM **11.6**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **0 %**
- Size with trub loss **12 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.5 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **13.5 liter(s)**

Steps

- Temp **57 C**, Time **10 min**
- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **0 min**

Mash step by step

- Heat up **10.5 liter(s)** of strike water to **62.3C**
- Add grains
- Keep mash **10 min** at **57C**
- Keep mash **60 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **77C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **14.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Munich Malt	1.3 kg *(43.3%)*	78 %	16
Grain	Weyermann - Bohemian Pilsner Malt	1 kg *(33.3%)*	80.5 %	4
Grain	Viking Pale Ale malt	0.52 kg *(17.3%)*	80 %	5
Grain	Weyermann - Caramunich II	0.15 kg *(5%)*	73 %	120
Grain	Weyermann - Carafa Special II	0.03 kg *(1%)*	65 %	1150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle (PL)	20 g	60 min	7 %
Boil	Perle (PL)	10 g	30 min	7 %
Boil	Saaz (Czech Republic)	7 g	15 min	4.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Gozdawa Old German Altbier	Ale	Dry	10 g	---

Extras

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	2.5 g	Boil	10 min