

Alt

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **40**
- SRM **13.6**
- Style **Northern German Altbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **2 %**
- Size with trub loss **20.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.5 liter(s)**

Mash information

- Mash efficiency **89 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.3 liter(s)**
- Total mash volume **17.1 liter(s)**

Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **13.3 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **23.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	3.5 kg (92.1%)	80 %	16
Grain	Thomas Fawcet crystal 160	0.25 kg (6.6%)	73.5 %	160
Grain	Weyerman Carafa III Special	0.05 kg (1.3%)	65 %	1400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	11 %
Boil	Hallertau tradition	30 g	30 min	5.4 %
Boil	Hallertau tradition	15 g	15 min	5.4 %

Yeasts

Name	Type	Form	Amount	Laboratory
S-23	Lager	Slant	300 ml	---