#9 Altbier

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **31**
- SRM **6.8**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **0 %**
- Size with trub loss **20 liter(s)**
- Boil time **70 min**
- Evaporation rate **13 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **17.2 liter(s)**
- Total mash volume **21.5 liter(s)**

Steps

- Temp **50 C**, Time **20 min**
- Temp **64 C**, Time **30 min**
- Temp **70 C**, Time **30 min**
- Temp **77 C**, Time **0 min**

Mash step by step

- Heat up **17.2 liter(s)** of strike water to **53.8C**
- Add grains
- Keep mash **20 min** at **50C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **0 min** at **77C**
- Sparge using **13.6 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Light Munich Malt	4.3 kg *(100%)*	82 %	14

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mount Hood	40 g	60 min	5.5 %
Boil	Mount Hood	20 g	15 min	5.5 %

Yeasts

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

Notes

- Fermentacja: 16.5C - 7dni, 19C - dni, 0C - 14 dni
  Apr 22, 2022, 3:00 PM

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.