

## #9 Altbier

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- 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*