

## #16 altbier

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- Gravity **11.2 BLG**
- ABV ---
- IBU **20**
- SRM **15.6**
- Style **Blonde Ale**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **21.2 liter(s)**

### Steps

- Temp **56 C**, Time **0 min**
- Temp **64 C**, Time **30 min**
- Temp **73 C**, Time **50 min**
- Temp **75 C**, Time **0 min**

### Mash step by step

- Heat up **17 liter(s)** of strike water to **60.5C**
- Add grains
- Keep mash **0 min** at **56C**
- Keep mash **30 min** at **64C**
- Keep mash **50 min** at **73C**
- Keep mash **0 min** at **75C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **27.7 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield  | EBC |
|-------|----------------------|----------------|--------|-----|
| Grain | Caramunich Malt      | 0.4 kg (9.4%)  | 71.7 % | 110 |
| Grain | Munich Malt          | 3.8 kg (89.6%) | 80 %   | 18  |
| Grain | Weyermann - Carafa I | 0.04 kg (0.9%) | 70 %   | 690 |

### Hops

| Use for | Name                   | Amount | Time   | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil    | Hallertau Spalt Select | 50 g   | 60 min | 3.4 %      |
| Boil    | irlandzki mech         | 5 g    | 15 min | 1 %        |

### Yeasts

| Name                  | Type | Form  | Amount | Laboratory       |
|-----------------------|------|-------|--------|------------------|
| FM42 Stare Nadreńskie | Ale  | Slant | 200 ml | Fermentum Mobile |