

ALTBIER

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **13**
- SRM **11.7**
- Style **Specialty Beer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.2 liter(s)**
- Total mash volume **23.4 liter(s)**

Steps

- Temp **53 C**, Time **15 min**
- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **79 C**, Time **1 min**

Mash step by step

- Heat up **18.2 liter(s)** of strike water to **57.7C**
- Add grains
- Keep mash **15 min** at **53C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **73C**
- Keep mash **1 min** at **79C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|---------------|-------|-----|
| Grain | Strzegom Monachijski typ I | 5 kg (96.2%) | 79 % | 16 |
| Grain | Strzegom Karmel 300 | 0.2 kg (3.8%) | 70 % | 299 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------|--------|--------|------------|
| Boil | Spalt | 20 g | 55 min | 4.3 % |
| Boil | Spalt | 10 g | 25 min | 4.3 % |
| Boil | Spalt | 10 g | 5 min | 4.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |