

ALT bier

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **31**
- SRM **12.8**
- Style **Northern German Altbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **64 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.6 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **55 C**, Time **1 min**
- Temp **65 C**, Time **30 min**
- Temp **73 C**, Time **50 min**
- Temp **77 C**, Time **1 min**

Mash step by step

- Heat up **19.6 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **1 min** at **55C**
- Keep mash **30 min** at **65C**
- Keep mash **50 min** at **73C**
- Keep mash **1 min** at **77C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|---------------|-------|-----|
| Grain | Monachijski | 5 kg (89.3%) | 80 % | 16 |
| Grain | Caramunich® typ I | 0.5 kg (8.9%) | 73 % | 80 |
| Grain | Strzegom Czekoladowy jasny | 0.1 kg (1.8%) | 68 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------|--------|--------|------------|
| Boil | Spalt | 50 g | 60 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------|------|--------|--------|------------------|
| FM13 Irlandzkie Ciemności | Ale | Liquid | 500 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | mech irlandzki | 4 g | Boil | 10 min |