

alt

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **36**
- SRM **9**
- Style **Düsseldorf 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 **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 **62 C**, Time **15 min**
- Temp **71 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **18.2 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **71C**
- Keep mash **10 min** at **78C**
- Sparge using **12.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--|----------------|-------|-----|
| Grain | Monachijski typ II 20-25 EBC Weyermann | 4.5 kg (86.5%) | 80 % | 20 |
| Grain | Platki owsiane | 0.5 kg (9.6%) | 60 % | 3 |
| Grain | Weyermann pszeniczny jasny | 0.2 kg (3.8%) | 80 % | 6 |

Hops

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

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safbrew S-33 | Ale | Dry | 11.5 g | Fermentis |