

Amber ale

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **41**
- SRM **13.6**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **12.5 liter(s)**
- Trub loss **4 %**
- Size with trub loss **13 liter(s)**
- Boil time **75 min**
- Evaporation rate **20 %/h**
- Boil size **16.8 liter(s)**

Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3.6 liter(s) / kg**
- Mash size **9.9 liter(s)**
- Total mash volume **12.6 liter(s)**

Steps

- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **9.9 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **9.7 liter(s)** of **76C** water or to achieve **16.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Monachijski | 2 kg (72.7%) | 80 % | 16 |
| Grain | Strzegom Pilzneński | 0.4 kg (14.5%) | 80 % | 4 |
| Grain | Caramunich® typ I | 0.25 kg (9.1%) | 73 % | 80 |
| Grain | Weyermann - Acidulated Malt | 0.05 kg (1.8%) | 80 % | 6 |
| Grain | Black (Patent) Malt | 0.05 kg (1.8%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------------------|--------|--------|------------|
| Boil | Hallertau Tradition | 20 g | 60 min | 6.2 % |
| Boil | Hallertau Tradition | 30 g | 15 min | 6.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------|------|--------|--------|------------------|
| FM42 Stare Nadreńskie | Ale | Liquid | 30 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|----------|--------|
| Fining | Mech irlandzki | 4 g | Boil | 15 min |
| Other | Witamina C | 2 g | Bottling | --- |