

#2 Alt

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **36**
- SRM **12.8**
- 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 liter(s) / kg**
- Mash size **14.9 liter(s)**
- Total mash volume **19.8 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **14.9 liter(s)** of strike water to **73.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **15.4 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|------|
| Grain | Pilzneński | 3 kg (60.6%) | 81 % | 4 |
| Grain | Strzegom Monachijski typ I | 1.5 kg (30.3%) | 79 % | 16 |
| Grain | Strzegom Karmel 150 | 0.4 kg (8.1%) | 75 % | 150 |
| Grain | Strzegom Barwiący | 0.05 kg (1%) | 68 % | 1300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------|--------|--------|------------|
| Boil | Tradition | 50 g | 60 min | 5.5 % |
| Boil | Tradition | 20 g | 15 min | 5.5 % |
| Aroma (end of boil) | Tradition | 5 g | 0 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|------|--------|------------|
| Danstar - Nottingham | Ale | Dry | 11 g | Danstar |