

Dusseldorf Altbier

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **43**
- SRM **14.2**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **90 min**
- Evaporation rate **14.5 %/h**
- Boil size **28.6 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **23.3 liter(s)**

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------|----------------|-------|------|
| Grain | Weyermann - Pilsner Malt | 4 kg (68.6%) | 81 % | 5 |
| Grain | Munich Malt | 1 kg (17.2%) | 80 % | 25 |
| Grain | Aromatic Malt | 0.5 kg (8.6%) | 78 % | 51 |
| Grain | Caramunich® typ I | 0.24 kg (4.1%) | 73 % | 90 |
| Grain | Weyermann - Carafa II | 0.09 kg (1.5%) | 70 % | 1100 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil | Magnum | 30 g | 60 min | 11.5 % |
| Boil | Tettnang | 25 g | 15 min | 3.8 % |
| Boil | Tettnang | 25 g | 5 min | 3.8 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale K-97 | Ale | Dry | 11.5 g | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|------------|--------|---------|--------|
| Fining | irish moss | 5 g | Boil | 10 min |

Notes

- Malts added to 17.5 l of water at 72C
Single Decoction:
infusing for 50 minutes to Conversion Rest (total: 1h 45min)
pulled 4l out of the mash, rested 70-72 for 15 min then boiled for 25 min
added decoction and mashed out at 75 C
bedded 3l for lautering, sparged with 15l (75C) - went down from 20 to 11.1 brix
29l set for boiling for 90 min
13.9 brix after boiling (13.4 blg)

8 brix after 20 days of fermentation in 16-18 C (7.7 bkg) => efficiency: 43%
temp ramped up to 21 C for last week
Final Gravity => 7.2 bkg, efficiency < 50%
expected ABV => 4,0%
carbonation 2.2 (110g per 21l)
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