

Alt+Beer

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **33**
- SRM **12**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **20 %/h**
- Boil size **29.6 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **29.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	4.5 kg (93.8%)	79 %	14
Grain	Strzegom Karmel 300	0.3 kg (6.3%)	70 %	299

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	25 g	60 min	11 %
Boil	Hallertau Tradition	20 g	10 min	5 %
Boil	Hallertau Tradition	15 g	5 min	5 %
Aroma (end of boil)	Hallertau Tradition	15 g	1 min	5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-33	Ale	Dry	11 g	Fermentis