

Alt nr. 4

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **20**
- SRM **16.4**
- 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 **15.3 liter(s)**
- Total mash volume **20.4 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.3 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **5 min** at **78C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	3 kg (58.8%)	80 %	16
Grain	Słód Pilsner® 2,5-4,5 EBC Weyermann	1.5 kg (29.4%)	80 %	4
Grain	Weyermann Specjal W	0.6 kg (11.8%)	68 %	300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Mittelfruh	50 g	60 min	3 %
Boil	Hallertau Mittelfruh	20 g	15 min	3 %
Aroma (end of boil)	Hallertau Mittelfruh	5 g	0 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	0.4 ml	Fermentis