Altbier#1(wstępnie)

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **31**
- SRM **10.8**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.7 liter(s)**
- Total mash volume **22.7 liter(s)**

Steps

- Temp **53 C**, Time **15 min**
- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **17.7 liter(s)** of strike water to **57.7C**
- Add grains
- Keep mash **15 min** at **53C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **73C**
- Keep mash **5 min** at **78C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	1 kg *(19.8%)*	82 %	4
Grain	Monachijski typ II 20-254 EBC Viking Malt	1 kg *(19.8%)*	80 %	20
Grain	Viking Vienna Malt	2.5 kg *(49.5%)*	79 %	7
Grain	Viking Wheat Malt	0.3 kg *(5.9%)*	83 %	5
Grain	Viking Karmel 150	0.2 kg *(4%)*	75 %	150
Grain	Viking Malt Słód Barwiący	0.05 kg *(1%)*	65 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Izabella	30 g	60 min	6.8 %
Aroma (end of boil)	Mandarina Bavaria	30 g	10 min	9.1 %

Yeasts

Name	Type	Form	Amount	Laboratory

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Koelsch	Ale	Slant	1300 ml	---

Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	10 min