

Altbier

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **32**
- SRM **12.8**
- Style **Northern German Altbier**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **13.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **9.3 liter(s)**
- Total mash volume **12.2 liter(s)**

Steps

- Temp **65 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **9.3 liter(s)** of strike water to **72C**
- Add grains
- Keep mash **45 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **13.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	2.25 kg (77.6%)	79 %	16
Grain	Strzegom Karmel 300	0.15 kg (5.2%)	70 %	299
Grain	Viking Pale Ale malt	0.5 kg (17.2%)	80 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tradition	25 g	50 min	5.5 %
Whirlpool	Perle	10 g	20 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Lallemand LalBrew Kölsch	Ale	Dry	11 g	Lallemand