

ALT bier

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **31**
- SRM **12.8**
- Style **Northern German 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 **64 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.6 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **55 C**, Time **1 min**
- Temp **65 C**, Time **30 min**
- Temp **73 C**, Time **50 min**
- Temp **77 C**, Time **1 min**

Mash step by step

- Heat up **19.6 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **1 min** at **55C**
- Keep mash **30 min** at **65C**
- Keep mash **50 min** at **73C**
- Keep mash **1 min** at **77C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	5 kg (89.3%)	80 %	16
Grain	Caramunich® typ I	0.5 kg (8.9%)	73 %	80
Grain	Strzegom Czekoladowy jasny	0.1 kg (1.8%)	68 %	400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Spalt	50 g	60 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM13 Irlandzkie Ciemności	Ale	Liquid	500 ml	Fermentum Mobile

Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	4 g	Boil	10 min