

# Schwarzbier Ale

---

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **26**
- SRM **10.4**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 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 **70 min**
- Temp **72 C**, Time **15 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 **70 min** at **65C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (98%)	80 %	5
Grain	Jęczmień palony	0.1 kg (2%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	12 %

## Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	Fermentis