

Schwarzbier

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **20**
- SRM **17.4**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.7 liter(s)**
- Total mash volume **18.2 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **13.7 liter(s)** of strike water to **70.1C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.5 kg (54.9%)	81 %	4
Grain	Monachijski	1.5 kg (33%)	80 %	16
Grain	Czekoladowy	0.25 kg (5.5%)	60 %	788
Grain	Karmelowy Jasny 30EBC	0.15 kg (3.3%)	75 %	30
Grain	Karmelowy żytni Strzegom	0.15 kg (3.3%)	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	25 g	60 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	250 ml	Fermentis