

schwarz

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **20**
- SRM **18.7**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **65 C**, Time **3 min**
- Temp **72 C**, Time **50 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **3 min** at **65C**
- Keep mash **50 min** at **72C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	2.7 kg (49.1%)	80 %	16
Grain	Strzegom Wiedeński	2 kg (36.4%)	79 %	10
Grain	Weyermann - Caraamber	0.4 kg (7.3%)	75 %	65
Grain	Fawcett - Pale Chocolate	0.4 kg (7.3%)	71 %	600

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	8.8 %
Boil	Tettnang	10 g	30 min	3.8 %
Boil	Tettnang	10 g	5 min	3.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - munich lager	Lager	Slant	250 ml	---