

SHWARZBIER

- Gravity **12.4 BLG**
- ABV ---
- IBU **27**
- SRM **36.1**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.6 liter(s)**
- Total mash volume **26.5 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **20.6 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **77C**
- Sparge using **17 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pilsen Malt	2.2 kg (37.3%)	80.5 %	2
Grain	Strzegom Monachijski typ I	3 kg (50.8%)	79 %	16
Grain	Strzegom Karmel 150	0.3 kg (5.1%)	75 %	150
Grain	Strzegom Czekoladowy ciemny	0.2 kg (3.4%)	68 %	1200
Grain	Carafa III	0.1 kg (1.7%)	70 %	1034
Grain	Jęczmień palony	0.1 kg (1.7%)	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	40 g	60 min	4.5 %
Boil	Hallertau	30 g	20 min	4.5 %
Boil	Hallertau	20 g	5 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S - 23	Lager	Dry	11.5 g	Saflager S - 23