

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 |