

# SCHWARZBIER

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **26**
- SRM **23.3**
- Style **Schwarzbier**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.8 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **55 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16.6 liter(s)** of strike water to **57C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **55 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type    | Name                       | Amount         | Yield | EBC  |
|---------|----------------------------|----------------|-------|------|
| Grain   | Pilzneński                 | 3 kg (56.6%)   | 81 %  | 4    |
| Grain   | Strzegom Monachijski typ I | 1.3 kg (24.5%) | 79 %  | 16   |
| Grain   | Czekoladowy                | 0.25 kg (4.7%) | 60 %  | 788  |
| Grain   | Strzegom Karmel 30         | 0.15 kg (2.8%) | 75 %  | 30   |
| Grain   | Strzegom Karmel 300        | 0.15 kg (2.8%) | 70 %  | 299  |
| Grain   | Black (Patent) Malt        | 0.1 kg (1.9%)  | 55 %  | 1350 |
| Grain   | Pszeniczny                 | 0.25 kg (4.7%) | 85 %  | 4    |
| Adjunct | cukier kandyzowany         | 0.1 kg (1.9%)  | --- % | ---  |

## Hops

| Use for             | Name      | Amount | Time   | Alpha acid |
|---------------------|-----------|--------|--------|------------|
| Boil                | Magnum    | 15 g   | 60 min | 11.2 %     |
| Boil                | Tradition | 10 g   | 50 min | 5.5 %      |
| Aroma (end of boil) | Tradition | 15 g   | 10 min | 5.5 %      |

## Yeasts

| Name             | Type  | Form | Amount | Laboratory |
|------------------|-------|------|--------|------------|
| Saflager W 34/70 | Lager | Dry  | 11.5 g | Fermentis  |

## Extras

| Type   | Name           | Amount | Use for | Time   |
|--------|----------------|--------|---------|--------|
| Fining | mech irlandzki | 5 g    | Boil    | 15 min |

## Notes

- słody palone na ostatnie 10 min zacierania  
*Nov 29, 2018, 9:15 PM*