

nowy, lepszy Niemiec

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **21**
- SRM **30.1**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **9.3 liter(s)**
- Total mash volume **12 liter(s)**

Steps

- Temp **63 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **9.3 liter(s)** of strike water to **69.2C**
- Add grains
- Keep mash **60 min** at **63C**
- Keep mash **5 min** at **76C**
- Sparge using **7.4 liter(s)** of **76C** water or to achieve **14 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|--------|-----|
| Grain | BESTMALZ - Best Pilsen | 2.1 kg (78.7%) | 80.5 % | 4 |
| Grain | red active | 0.2 kg (7.5%) | 79 % | 35 |
| Grain | Weyermann - Chocolate Wheat | 0.3 kg (11.2%) | 74 % | 788 |
| Grain | Jęczmień palony | 0.07 kg (2.6%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Tettnanger | 13 g | 60 min | 2.5 % |
| Boil | Hallertau Spalt Select | 15 g | 60 min | 3.9 % |
| Aroma (end of boil) | Hallertau Spalt Select | 15 g | 5 min | 3.9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W 34/70 | Lager | Slant | 200 ml | --- |