

Bawarki lubią brąz

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **31**
- SRM **11.8**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **24.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.75 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **19 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **8 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **71C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **8 min** at **78C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **24.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------|-----------------|-------|-----|
| Grain | Weyermann - Pilsner Malt | 1.2 kg (30%) | 81 % | 5 |
| Grain | Monachijski | 2.45 kg (61.3%) | 80 % | 16 |
| Grain | Carahell | 0.15 kg (3.8%) | 77 % | 26 |
| Grain | Caraaroma | 0.2 kg (5%) | 78 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------|--------|--------|------------|
| Boil | Mount Hood | 30 g | 55 min | 4.7 % |
| Boil | Hallertau Blanc | 15 g | 15 min | 9.6 % |
| Boil | Hallertau Blanc | 15 g | 5 min | 9.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------------------|-------|-------|--------|------------|
| WLP833 - German Bock Lager Yeast | Lager | Slant | 200 ml | White Labs |