

# 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 |