

## bock

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **23**
- SRM **15.3**
- Style **Traditional Bock**

### Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **40.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **31.2 liter(s)**
- Total mash volume **41.6 liter(s)**

### Steps

- Temp **55 C**, Time **10 min**
- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **2 min**

### Mash step by step

- Heat up **31.2 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **2 min** at **78C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **40.5 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount         | Yield | EBC  |
|-------|-----------------------------|----------------|-------|------|
| Grain | Pilzneński                  | 5 kg (48.1%)   | 81 %  | 4    |
| Grain | Strzegom Monachijski typ I  | 2 kg (19.2%)   | 79 %  | 16   |
| Grain | Strzegom Karmel 30          | 2 kg (19.2%)   | 75 %  | 30   |
| Grain | Strzegom karmel 600         | 0.25 kg (2.4%) | 75 %  | 150  |
| Grain | Strzegom Czekoladowy ciemny | 0.15 kg (1.4%) | 68 %  | 1200 |
| Grain | Pszeniczny                  | 1 kg (9.6%)    | 85 %  | 4    |

### Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Saaz (Czech Republic) | 20 g   | 60 min | 4.5 %      |
| Boil    | Marynka               | 30 g   | 30 min | 10 %       |
| Boil    | Hallertau             | 20 g   | 30 min | 4.5 %      |

### Yeasts

| Name                    | Type  | Form   | Amount | Laboratory       |
|-------------------------|-------|--------|--------|------------------|
| FM31 Bawarska<br>Dolina | Lager | Liquid | 30 ml  | Fermentum Mobile |