

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 Dolina | Lager | Liquid | 30 ml | Fermentum Mobile |