

Bulbulator

- Gravity **19.8 BLG**
- ABV **8.7 %**
- IBU **31**
- SRM **11.1**
- Style **Doppelbock**

Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **12 %/h**
- Boil size **24.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **36 liter(s)**
- Total mash volume **43.2 liter(s)**

Steps

- Temp **50 C**, Time **10 min**
- Temp **65 C**, Time **120 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **15 min**

Mash step by step

- Heat up **36 liter(s)** of strike water to **53C**
- Add grains
- Keep mash **10 min** at **50C**
- Keep mash **120 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **15 min** at **76C**
- Sparge using **-4.7 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|---------------|-------|-----|
| Grain | Strzegom Monachijski typ I | 3 kg (41.7%) | 79 % | 16 |
| Grain | Strzegom Wiedeński | 2 kg (27.8%) | 79 % | 10 |
| Grain | Pilzneński | 2 kg (27.8%) | 81 % | 4 |
| Grain | Biscuit Malt | 0.1 kg (1.4%) | 79 % | 50 |
| Grain | Strzegom Karmel 300 | 0.1 kg (1.4%) | 70 % | 299 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|------------|---------|--------|---------|------------|
| First Wort | Marynka | 30 g | 100 min | 9.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W 34/70 | Lager | Slant | 300 ml | Fermentis |