

Xmas

- Gravity **21.8 BLG**
- ABV **9.8 %**
- IBU **33**
- SRM **44.1**
- Style **Baltic Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **26.1 liter(s)**
- Total mash volume **34.8 liter(s)**

Steps

- Temp **48 C**, Time **5 min**
- Temp **52 C**, Time **5 min**
- Temp **60 C**, Time **40 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **26.1 liter(s)** of strike water to **52.7C**
- Add grains
- Keep mash **5 min** at **48C**
- Keep mash **5 min** at **52C**
- Keep mash **40 min** at **60C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **10.2 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|------|
| Grain | Strzegom Monachijski typ I | 3 kg (34.5%) | 79 % | 16 |
| Grain | Strzegom Monachijski typ II | 2.3 kg (26.4%) | 79 % | 22 |
| Grain | Strzegom Wiedeński | 1 kg (11.5%) | 79 % | 10 |
| Grain | Pilzneński | 1 kg (11.5%) | 81 % | 4 |
| Grain | cara Bohemian | 0.4 kg (4.6%) | 68 % | 220 |
| Grain | Strzegom Karmel 600 | 0.4 kg (4.6%) | 68 % | 601 |
| Grain | Strzegom Czekoladowy jasny | 0.2 kg (2.3%) | 68 % | 400 |
| Grain | Strzegom Czekoladowy ciemny | 0.2 kg (2.3%) | 68 % | 1200 |
| Grain | Weyermann - Carafa II | 0.2 kg (2.3%) | 70 % | 1250 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | lunga | 35 g | 60 min | 11 % |
| Boil | Lublin (Lubelski) | 30 g | 10 min | 4 % |
| Boil | Lublin (Lubelski) | 10 g | 5 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W 34/70 | Lager | Slant | 350 ml | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-------------------|--------|---------|--------|
| Fining | mech irlandzki | 4 g | Boil | 15 min |
| Spice | cynamon | 7 g | Boil | 10 min |
| Spice | goździk | 5 g | Boil | 10 min |
| Spice | skórka pomarańczy | 10 g | Boil | 10 min |