

ABitter

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **23**
- SRM **8**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **20.3 liter(s)**

Steps

- Temp **63 C**, Time **40 min**
- Temp **69 C**, Time **20 min**
- Temp **75 C**, Time **10 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **15.8 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **69C**
- Keep mash **10 min** at **75C**
- Keep mash **1 min** at **78C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|---------------|-------|-----|
| Grain | Castle Pale Ale | 4 kg (88.9%) | 80 % | 8 |
| Grain | Słód Caramunich Typ II Weyermann | 0.3 kg (6.7%) | 73 % | 120 |
| Grain | Strzegom Bursztynowy | 0.2 kg (4.4%) | 70 % | 49 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Tradition | 40 g | 30 min | 5.5 % |
| Boil | Lublin (Lubelski) | 20 g | 10 min | 3.7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------------|------|--------|--------|------------------|
| FM10 O czym szumią wierzby | Ale | Liquid | 30 ml | Fermentum Mobile |