

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