

## Flaps

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **15**
- SRM **29.3**
- Style **Brown Porter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **0 %**
- Size with trub loss **20 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **21 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **75 C**, Time **5 min**

### Mash step by step

- Heat up **15.4 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **75C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **21 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (68.2%)	80 %	5
Grain	Caramunich® typ I	0.5 kg (11.4%)	73 %	80
Grain	Simpsons - Coffee Malt	0.5 kg (11.4%)	74 %	296
Grain	Strzegom Czekoladowy jasny	0.2 kg (4.5%)	68 %	400
Grain	Fawcett - Pszeniczny Czekoladowy	0.2 kg (4.5%)	73 %	1001

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	30 g	60 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast 1450 Denny's Favorite	Ale	Liquid	100 ml	---