

# Battle of Bannockburn

---

- Gravity **11.7 BLG**
- ABV ---
- IBU **19**
- SRM **12.1**
- Style **Scottish Export 80/-**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **28.9 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **78C**
- Sparge using **19.9 liter(s)** of **76C** water or to achieve **28.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (88.9%)	79 %	6
Grain	Carafa II	0.06 kg (1.3%)	70 %	812
Grain	Strzegom Karmel 150	0.12 kg (2.7%)	75 %	150
Grain	Casle Malting Whisky Nature	0.12 kg (2.7%)	85 %	4
Grain	Weyermann - Rye Malt	0.2 kg (4.4%)	85 %	7

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Phoenix	15 g	60 min	10.9 %
Boil	Phoenix	15 g	0 min	10.9 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP028 - Edinburgh Scottish Ale Yeast	Ale	Liquid	35 ml	White Labs