oriis

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **30**
- SRM **4.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **21.6 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.8 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **68C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Maris Otter Crisp	4.8 kg *(100%)*	83 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	100 g	20 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	---