

Bitter

- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **23**
- SRM **5.3**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **4.2 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **23.9 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **69.2C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **13.1 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	4 kg (87%)	80 %	8
Grain	Biscuit Malt	0.2 kg (4.3%)	79 %	45
Grain	Weyermann - Carapils	0.4 kg (8.7%)	78 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	30 g	60 min	4.6 %
Boil	East Kent Goldings	25 g	20 min	4.6 %
Aroma (end of boil)	East Kent Goldings	15 g	0 min	4.6 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis