

# Bitter

- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **28**
- SRM **6.3**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **52 liter(s)**
- Trub loss **5 %**
- Size with trub loss **54.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **65.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **29.1 liter(s)**
- Total mash volume **38.8 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **29.1 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **46.4 liter(s)** of **76C** water or to achieve **65.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	8 kg (82.5%)	80 %	5
Grain	Biscuit Malt	1 kg (10.3%)	79 %	45
Grain	Caramunich® typ I	0.7 kg (7.2%)	73 %	80

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	12.7 %
Boil	Marynka	30 g	25 min	10 %
Aroma (end of boil)	Fuggles	20 g	0 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
s-04	Ale	Dry	34.5 g	---

## Extras

Type	Name	Amount	Use for	Time
Finning	Whirlflock T	2.5 g	Boil	15 min