

# bitter

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- Gravity **9.8 BLG**
- ABV **3.8 %**
- IBU **38**
- SRM **6.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.9 liter(s)**

## Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **10.7 liter(s)**
- Total mash volume **13.4 liter(s)**

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) US	2.4 kg (89.4%)	79 %	4
Grain	Biscuit Malt	0.185 kg (6.9%)	79 %	45
Grain	Karmelowy Czerwony	0.1 kg (3.7%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	8 g	60 min	9.2 %
Whirlpool	Challenger	50 g	30 min	6.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Fermentis