

## #04 - Bitter

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **40**
- SRM **14.9**
- Style **Special/Best/Premium Bitter**

### 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 **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **22.4 liter(s)**

### Steps

- Temp **66 C**, Time **50 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **16.8 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **50 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **14.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	1.6 kg (28.6%)	79 %	6
Grain	Strzegom Pilzneński	3.4 kg (60.7%)	80 %	4
Grain	Strzegom Karmel 300	0.6 kg (10.7%)	70 %	299

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	25 g	60 min	6.3 %
Boil	Fuggles	25 g	60 min	5.6 %
Boil	Fuggles	25 g	5 min	5.6 %
Boil	East Kent Goldings	25 g	5 min	6.3 %

### Yeasts

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