

## #15 Bitter

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- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **31**
- SRM **8.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **50.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **42 liter(s)**
- Total mash volume **54 liter(s)**

### Steps

- Temp **53 C**, Time **15 min**
- Temp **68 C**, Time **60 min**

### Mash step by step

- Heat up **42 liter(s)** of strike water to **57.7C**
- Add grains
- Keep mash **15 min** at **53C**
- Keep mash **60 min** at **68C**
- Sparge using **20.6 liter(s)** of **76C** water or to achieve **50.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	10 kg (83.3%)	80 %	5
Grain	Karmelowy Viking 100 malt	1 kg (8.3%)	80 %	100
Grain	Strzegom Wiedeński	1 kg (8.3%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Endavour	50 g	60 min	9 %
Boil	Hallertau	30 g	30 min	5.4 %
Aroma (end of boil)	Hallertau	20 g	10 min	5.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	23 g	Safale

### Notes

- Finalnie 15,2 BLG  
*Mar 16, 2019, 1:11 AM*