

## Bitter [K]

- Gravity **10.7 BLG**
- ABV **4.3 %**
- IBU **31**
- SRM **9.9**
- Style **Special/Best/Premium Bitter**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **12.8 liter(s)**
- Total mash volume **16 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**

### Mash step by step

- Heat up **12.8 liter(s)** of strike water to **71.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Sparge using **9.4 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.6 kg (79%)	82 %	5
Grain	Słód Caramunich Typ II Weyermann	0.35 kg (10.6%)	73 %	120
Sugar	cukier	0.1 kg (3%)	100 %	3
Grain	Fawcett - Pszeniczny Czekoladowy	0.02 kg (0.6%)	73 %	1001
Grain	Carabelge	0.22 kg (6.7%)	80 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Willamette	17 g	50 min	5.2 %
Boil	East Kent Goldings	12 g	50 min	6.3 %
Aroma (end of boil)	Willamette	7 g	5 min	5.2 %
Aroma (end of boil)	East Kent Goldings	7 g	5 min	6.3 %
Whirlpool	Willamette	15 g	20 min	5.2 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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FM12 W szkocką kratę	Ale	Liquid	200 ml	Fermentum Mobile
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