

## Bitter #1

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- Gravity **10 BLG**
- ABV **4 %**
- IBU **22**
- SRM **5.6**
- Style **Special/Best/Premium Bitter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **19.2 liter(s)**
- Total mash volume **24 liter(s)**

### Steps

- Temp **54 C**, Time **5 min**
- Temp **63 C**, Time **25 min**
- Temp **72 C**, Time **30 min**

### Mash step by step

- Heat up **19.2 liter(s)** of strike water to **58.3C**
- Add grains
- Keep mash **5 min** at **54C**
- Keep mash **25 min** at **63C**
- Keep mash **30 min** at **72C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Vienna Malt	1 kg (20.8%)	81 %	8
Grain	Pale Malt (2 Row) Bel	1 kg (20.8%)	80 %	6
Grain	Chit Malt	1 kg (20.8%)	50 %	2
Grain	Weyermann - Carared	0.5 kg (10.4%)	75 %	45
Grain	Słód owsiany Fawcett	0.5 kg (10.4%)	61 %	5
Grain	Żytni	0.25 kg (5.2%)	85 %	8
Grain	diastatyczny	0.25 kg (5.2%)	81 %	4
Grain	Płatki owsiane	0.3 kg (6.3%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	25 g	45 min	4 %
Boil	Fuggles	15 g	15 min	4.5 %
Boil	Lublin (Lubelski)	25 g	15 min	4 %
Aroma (end of boil)	Fuggles	35 g	1 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Liquid	1000 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Spice	curasao	15 g	Boil	15 min

## Notes

- F1 10Blg - 21/09  
F2 2,5Blg - 29/09  
Butel - 1,75Blg - 11/10/19  
CO2 vol 2,3  
  
ABV 4.4% Odfermentowanie 83.0%  
*Oct 11, 2019, 3:25 PM*
- - zacieranie za słodkie  
- przyprawę nie potrzebna  
- bez karmelu  
*Dec 1, 2019, 7:26 PM*