

# Bitter po polsku

- Gravity **10 BLG**
- ABV **4 %**
- IBU **35**
- SRM **6.9**
- Style **Standard/Ordinary Bitter**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.1 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **5.5 liter(s) / kg**
- Mash size **18.2 liter(s)**
- Total mash volume **21.5 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **18.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **10.2 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.2 kg (66.7%)	80 %	6
Grain	Viking Munich Malt	1 kg (30.3%)	78 %	23
Grain	Caramel/Crystal Malt - 120L	0.1 kg (3%)	72 %	270

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	60 min	8.4 %
Boil	Marynka	25 g	10 min	8.4 %
Dry Hop	Oktawia	50 g	3 day(s)	7.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM11 Wichrowe Wzgórza	Ale	Slant	50 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Fining	mech	5 g	Boil	5 min

Water Agent	kwas fosforowy	5 g	Mash	60 min
Water Agent	gips	3 g	Boil	60 min