

# PPA

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **39**
- SRM **4.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **3 %**
- Size with trub loss **28.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **33 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

## Steps

- Temp **68 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **19.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **45 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **33 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński Malteurop	1.5 kg (23.1%)	81 %	4
Grain	Pale Ale Malteurop	5 kg (76.9%)	81 %	7

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	45 min	8.7 %
Boil	Lublin (Lubelski)	15 g	15 min	4.7 %
Aroma (end of boil)	Lublin (Lubelski)	15 g	10 min	4.7 %
Whirlpool	Lublin (Lubelski)	20 g	10 min	4.7 %
Dry Hop	Lublin (Lubelski)	50 g	4 day(s)	4.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

## Extras

Type	Name	Amount	Use for	Time
------	------	--------	---------	------

Fining	WHRLIFLOC T	0.5 g	Boil	10 min
--------	-------------	-------	------	--------