

# PILS

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **39**
- SRM **4**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

## Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

## Mash step by step

- Heat up **12.9 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg (93%)	81 %	4
Grain	Karmelowy Jasny 30EBC	0.3 kg (7%)	75 %	30

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	10 %
Boil	Lublin (Lubelski)	40 g	10 min	4 %

## Yeasts

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