

# PILS

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **44**
- SRM **3.5**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **21 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **15.8 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **18.5 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5.25 kg (100%)	81 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	25 g	60 min	10 %
Boil	Izabella	25 g	60 min	5.1 %
Aroma (end of boil)	Izabella	25 g	5 min	5.1 %
Aroma (end of boil)	lunga	25 g	5 min	11 %

## Yeasts

Name	Type	Form	Amount	Laboratory
fermentis W34/70	Lager	Dry	11 g	---

## Notes

- CHŁODZENIE  
Do 9°C - zadać drożdże - 2.dni w temp. 9°C - co drugi dzień podnosić temp. o 1°C aż do 13°C FERMENTACJA  
Cicha - 3tyg - 0-6°C w lodówce  
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