

# pils na wodę, fotomontaż

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **43**
- SRM **3.5**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.1 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **20.3 liter(s)**

## Steps

- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **75 C**, Time **10 min**

## Mash step by step

- Heat up **15.8 liter(s)** of strike water to **69.2C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **75C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pilsner® 2,5-4,5 EBC Weyermann	4.4 kg (97.3%)	80 %	4
Grain	Weyermann - Carapils	0.12 kg (2.7%)	78 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	30 g	60 min	11.2 %
Aroma (end of boil)	Saaz (Czech Republic)	25 g	5 min	3.72 %
Whirlpool	Saaz (Czech Republic)	30 g	20 min	3.72 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	1500 ml	---