

# Pils niemiecki

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **35**
- SRM **3.7**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **18.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.1 liter(s)**
- Total mash volume **14.8 liter(s)**

## Steps

- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **11.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.1 liter(s)** of **76C** water or to achieve **18.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.6 kg (97.3%)	81 %	4
Grain	Vienna Malt	0.1 kg (2.7%)	78 %	8

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	7 g	60 min	9.1 %
Boil	Hallertau Mittelfruh	25 g	60 min	4 %
Boil	Hallertau Mittelfruh	30 g	20 min	4 %
Boil	Hallertau Mittelfruh	45 g	0 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - 2124 Bohemian Lager	Lager	Slant	250 ml	Wyeast Labs

## Extras

Type	Name	Amount	Use for	Time
Water Agent	CaSO4	5 g	Mash	60 min

Water Agent	Lactic Acid	5 g	Mash	60 min
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