

# Pils niemiecki

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **37**
- SRM **3.7**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **9.9 liter(s)**
- Total mash volume **12.9 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 **9.9 liter(s)** of strike water to **70.7C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **8.3 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (100%)	81 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	20 g	60 min	7.1 %
Boil	Hallertau Mittelfruh	15 g	20 min	3.7 %
Boil	Hallertau Spalt Select	15 g	20 min	3.1 %
Boil	Hallertau Mittelfruh	15 g	0 min	3.7 %
Boil	Hallertau Spalt Select	25 g	0 min	3.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - 2633 Octoberfest Lager Blend	Lager	Slant	200 ml	Wyeast Labs

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Lactic Acid	4 g	Mash	60 min