

# PILS NIEMIECKI

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **33**
- SRM **3.6**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **45 min** at **63C**
- Keep mash **45 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	6 kg (100%)	80 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	tradition	40 g	60 min	5 %
Boil	tradition	19 g	30 min	5 %
Boil	spalt select	35 g	15 min	5.5 %
Aroma (end of boil)	tetnanger	35 g	0 min	3.7 %
Aroma (end of boil)	spalt select	20 g	0 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	1000 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
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Fining	tabletko wirflock	3 g	Boil	10 min
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