

## #36 Pils Niemiecki

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **43**
- SRM **3.5**
- 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 **3.5 liter(s) / kg**
- Mash size **10.2 liter(s)**
- Total mash volume **13.1 liter(s)**

### Steps

- Temp **62 C**, Time **40 min**
- Temp **68 C**, Time **30 min**
- Temp **78 C**, Time **2 min**

### Mash step by step

- Heat up **10.2 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **30 min** at **68C**
- Keep mash **2 min** at **78C**
- Sparge using **7.9 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2.9 kg (100%)	80 %	3.8

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	50 min	12.1 %
Boil	Hallertau Tradition	10 g	30 min	5.2 %
Boil	Hallertau Tradition	10 g	5 min	5.2 %
Aroma (end of boil)	Spalt	10 g	5 min	3.6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM30 Bohemska rapsodia	Lager	Liquid	500 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Water Agent	sól epton	3 g	Mash	60 min
Water Agent	sól	1 g	Mash	60 min

Water Agent	kwask mlekowy	12 g	Mash	60 min
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## Notes

- Profil wody: powinna być trochę twardsza niż na czeskiego pilsa, większą ilość siarczanów i chloru, z przewagą siarczanów żeby goryczka była bardziej odczuwalna.

woda Saguaro 5 litrów Lidl

<https://www.brewersfriend.com/mash-chemistry-and-brewing-water-calculator/?id=XZXTL8H>

<https://beerandbrewing.com/make-your-best-german-pilsner/>

<https://homebrewingdiy.beer/index.php/2021/04/27/deep-dive-on-brewing-german-pilsners/>

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