

Pils niemiecki

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **34**
- SRM **3.6**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **52 C**, Time **5 min**
- Temp **64 C**, Time **25 min**
- Temp **70 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **25 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **1 min** at **78C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (100%)	81 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Tradition	35 g	60 min	6.3 %
Boil	Tettnang	20 g	30 min	3.3 %
Boil	Hallertau Mittelfruh	20 g	15 min	3.7 %
Boil	Tettnang	20 g	5 min	3.3 %