

# PILS Munich zacier

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **48**
- SRM **5.3**
- Style **Munich Helles**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **25.2 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20 liter(s)**

## Steps

- Temp **51 C**, Time **15 min**
- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **60 min**

## Mash step by step

- Heat up **16 liter(s)** of strike water to **54.9C**
- Add grains
- Keep mash **15 min** at **51C**
- Keep mash **15 min** at **62C**
- Keep mash **60 min** at **72C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **25.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Bohemian Pilsner Malt	2 kg (50%)	81 %	4
Grain	Munich Malt	2 kg (50%)	80 %	15

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	vital	15 g	60 min	12.7 %
Boil	Premiant	25 g	30 min	5.53 %
Boil	Premiant	25 g	20 min	5.53 %
Boil	Saaz (Czech Republic)	20 g	10 min	2.99 %
Boil	Saaz (Czech Republic)	20 g	5 min	2.99 %

## Yeasts

Name	Type	Form	Amount	Laboratory
diamond lager	Lager	Slant	300 ml	lallemand