

# 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  |