

munich_pils

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **46**
- SRM **4.2**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **28.1 liter(s)**

Mash information

- Mash efficiency **96 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **51 C**, Time **15 min**
- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**

Mash step by step

- Heat up **14 liter(s)** of strike water to **55.4C**
- Add grains
- Keep mash **15 min** at **51C**
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Sparge using **18.1 liter(s)** of **76C** water or to achieve **28.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------------|--------------------------|---------------|--------------|------------|
| Grain | Monachijski | 1 kg (25%) | 80 % | 16 |
| Grain | Weyermann - Pilsner Malt | 3 kg (75%) | 81 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|----------------|-----------------|---------------|-------------|-------------------|
| Boil | Magnum | 5 g | 60 min | 10.5 % |
| Boil | Northern Brewer | 25 g | 60 min | 7.6 % |
| Boil | Perle | 40 g | 20 min | 7.3 % |
| Boil | Fuggles | 20 g | 10 min | 5.3 % |