

Helles 4

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **24**
- SRM **3.1**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **53 C**, Time **1 min**
- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **14 liter(s)** of strike water to **57.7C**
- Add grains
- Keep mash **1 min** at **53C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------|---------------|-------|-----|
| Grain | Pilsner Malz Best | 3.8 kg (95%) | 81 % | 3 |
| Grain | Carapils Best | 0.1 kg (2.5%) | 75 % | 5 |
| Grain | Carahell Best | 0.1 kg (2.5%) | 75 % | 30 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|------------|----------|--------|--------|------------|
| First Wort | Marynka | 5 g | 60 min | 7.3 % |
| Whirlpool | Nectaron | 40 g | 20 min | 13.7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------------|-------|--------|--------|-------------|
| Wyeast - 2206 Bavarian Lager | Lager | Liquid | 300 ml | Wyeast Labs |