

# Kaiser Helles

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **22**
- SRM **3.8**
- Style **Munich Helles**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **80 min**
- Evaporation rate **12 %/h**
- Boil size **28 liter(s)**

## Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **6 liter(s) / kg**
- Mash size **30 liter(s)**
- Total mash volume **35 liter(s)**

## Steps

- Temp **50 C**, Time **0 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **15 min**

## Mash step by step

- Heat up **30 liter(s)** of strike water to **52.5C**
- Add grains
- Keep mash **0 min** at **50C**
- Keep mash **45 min** at **63C**
- Keep mash **45 min** at **72C**
- Keep mash **15 min** at **76C**
- Sparge using **3 liter(s)** of **76C** water or to achieve **28 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount       | Yield | EBC |
|-------|---------------------|--------------|-------|-----|
| Grain | Pilzneński          | 4.2 kg (84%) | 81 %  | 4   |
| Grain | Malteurop Wiedeński | 0.8 kg (16%) | 79 %  | 8   |

## Hops

| Use for    | Name      | Amount | Time   | Alpha acid |
|------------|-----------|--------|--------|------------|
| First Wort | Magnum    | 8.5 g  | 80 min | 12.1 %     |
| Boil       | Tradition | 5 g    | 60 min | 5.2 %      |
| Boil       | Tradition | 10 g   | 30 min | 5.2 %      |
| Boil       | Tradition | 10 g   | 15 min | 5.2 %      |

## Yeasts

| Name                   | Type  | Form   | Amount | Laboratory       |
|------------------------|-------|--------|--------|------------------|
| FM30 Bohemska rapsodia | Lager | Liquid | 200 ml | Fermentum Mobile |

## Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

|        |           |     |      |        |
|--------|-----------|-----|------|--------|
| Fining | Whirlfloc | 3 g | Boil | 15 min |
|--------|-----------|-----|------|--------|

## Notes

- Water profile: Ca 50, Mg 1, Na 5, SO4 57, Cl 43, HCO3 30  
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