

# 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
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Fining	Whirlfloc	3 g	Boil	15 min
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## Notes

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