

Helles

- Gravity **10.7 BLG**
- ABV **4.3 %**
- IBU **19**
- SRM **4**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **25 %/h**
- Boil size **15.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **10 liter(s)**
- Total mash volume **12.5 liter(s)**

Steps

- Temp **66 C**, Time **120 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **10 liter(s)** of strike water to **71.8C**
- Add grains
- Keep mash **120 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **8.4 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.62 kg (64.8%)	80 %	5
Best Ale				
Grain	Simpsons - Maris Otter	0.78 kg (31.2%)	81 %	6
Grain	Weyermann - Carapils	0.1 kg (4%)	78 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	30 g	15 min	5.3 %
Whirlpool	Styrian Wolf	30 g	1 min	13.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM30 Bohemská rapsodia	Lager	Slant	100 ml	Fermentum Mobile

Extras

Type	Name	Amount	Use for	Time
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Water Agent	Kwas fosforowy	3 g	Mash	120 min
1 ml do zacierania, 2ml do wystadzania				
Water Agent	Chlorek wapnia	2 g	Mash	120 min
Fining	WhirlflocT	2 g	Boil	15 min