

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 |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

| | | | | |
|--|----------------|-----|------|---------|
| 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 |