

lager

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **20**
- SRM **3.5**
- Style **Vienna Lager**

Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **17 %/h**
- Boil size **43.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.5 liter(s)**
- Total mash volume **30 liter(s)**

Steps

- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **22.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **28.1 liter(s)** of **76C** water or to achieve **43.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------|---------------|-------|-----|
| Grain | Pilzneński | 7.5 kg (100%) | 81 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------|--------|--------|------------|
| Boil | saaz | 50 g | 60 min | 3.76 % |
| Boil | Zula | 20 g | 20 min | 8.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| fm 31 | Ale | Dry | 30 g | fermentum |