

Helles

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **16**
- SRM **4.3**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **37 liter(s)**
- Trub loss **5 %**
- Size with trub loss **38.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **48.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **31.8 liter(s)**
- Total mash volume **40.9 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **31.8 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **26.2 liter(s)** of **76C** water or to achieve **48.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|---------------|-------|-----|
| Grain | Strzegom Pilzneński | 8 kg (87.9%) | 80 % | 4 |
| Grain | Strzegom Wiedeński | 0.9 kg (9.9%) | 79 % | 10 |
| Grain | Biscuit Malt | 0.2 kg (2.2%) | 79 % | 45 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|----------------------|--------|--------|------------|
| Boil | Hallertau Mittelfruh | 45 g | 60 min | 3.7 % |
| Aroma (end of boil) | Hallertau Mittelfruh | 50 g | 15 min | 3.7 % |
| Aroma (end of boil) | Hallertau Mittelfruh | 55 g | 1 min | 3.7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|-------|--------|---------|------------|
| Wyeast- 2308 | Lager | Liquid | 2000 ml | --- |