

# Helles

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **22**
- SRM **4.4**
- Style **Munich Helles**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **27.5 liter(s)**

## Steps

- Temp **63 C**, Time **15 min**
- Temp **66 C**, Time **15 min**
- Temp **73 C**, Time **30 min**
- Temp **78 C**, Time **2 min**

## Mash step by step

- Heat up **22 liter(s)** of strike water to **68.4C**
- Add grains
- Keep mash **15 min** at **63C**
- Keep mash **15 min** at **66C**
- Keep mash **30 min** at **73C**
- Keep mash **2 min** at **78C**
- Sparge using **9.9 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount         | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 4.5 kg (81.8%) | 80 %  | 4   |
| Grain | Strzegom Wiedeński  | 0.5 kg (9.1%)  | 79 %  | 10  |
| Grain | Carabody            | 0.5 kg (9.1%)  | 75 %  | 8   |

## Hops

| Use for             | Name                 | Amount | Time   | Alpha acid |
|---------------------|----------------------|--------|--------|------------|
| Boil                | Hallertau Mittelfruh | 25 g   | 60 min | 3.8 %      |
| Aroma (end of boil) | Hallertau Mittelfruh | 75 g   | 10 min | 3.8 %      |

## Yeasts

| Name                              | Type  | Form   | Amount | Laboratory |
|-----------------------------------|-------|--------|--------|------------|
| White Labs WLP860-0 Munich Helles | Lager | Liquid | 200 ml | White Labs |

## Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

|             |                |     |      |        |
|-------------|----------------|-----|------|--------|
| Fining      | Mech irlandzki | 4 g | Boil | 10 min |
| Water Agent | Gips           | 4 g | Mash | 60 min |

### Notes

- Zacieranie pH 5,5, gotowanie pH 5,0. Fermentacja ok 7 dni w 10st + 4 dni w 16st. Cicha ok 14 dni 1-2st.  
*Jan 2, 2025, 5:08 PM*