

# German Pils

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **35**
- SRM **3**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **0 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **52 C**, Time **5 min**
- Temp **64 C**, Time **25 min**
- Temp **70 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **17 liter(s)** of strike water to **56.7C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **25 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **5 min** at **78C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

| Type  | Name                           | Amount      | Yield  | EBC  |
|-------|--------------------------------|-------------|--------|------|
| Grain | Weyermann Premium Pilsner Malt | 5 kg (100%) | 80.5 % | 2.75 |

## Hops

| Use for             | Name                           | Amount | Time   | Alpha acid |
|---------------------|--------------------------------|--------|--------|------------|
| Boil                | Magnum PL 2023                 | 20 g   | 60 min | 11 %       |
| Boil                | Tettnanger DE 2023             | 20 g   | 30 min | 3.2 %      |
| Boil                | Hallertauer Mittelfruh DE 2023 | 20 g   | 15 min | 4.8 %      |
| Aroma (end of boil) | Tettnanger DE 2023             | 10 g   | 5 min  | 3.2 %      |
| Aroma (end of boil) | Hallertauer Mittelfruh DE 2023 | 10 g   | 5 min  | 4.8 %      |

## Yeasts

| Name                      | Type  | Form | Amount | Laboratory |
|---------------------------|-------|------|--------|------------|
| Fermentis Saflager W34/70 | Lager | Dry  | 23 g   | Fermentis  |

## Extras

| Type        | Name             | Amount | Use for | Time   |
|-------------|------------------|--------|---------|--------|
| Water Agent | Kwas Mlekowy 80% | 5 g    | Mash    | ---    |
| Other       | Witamina C       | 5 g    | Primary | ---    |
| Other       | Łuska Ryżowa     | 50 g   | Mash    | ---    |
| Fining      | Whirlfloc T      | 1.25 g | Boil    | 10 min |