

# German Pilsner v3

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **38**
- SRM **3.7**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **0 %**
- Size with trub loss **20 liter(s)**
- Boil time **90 min**
- Evaporation rate **15 %/h**
- Boil size **28.2 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25 liter(s)**

## Steps

- Temp **52 C**, Time **5 min**
- Temp **64 C**, Time **20 min**
- Temp **70 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **20 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **20 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **5 min** at **78C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **28.2 liter(s)** of wort

## Fermentables

| Type  | Name                   | Amount      | Yield  | EBC |
|-------|------------------------|-------------|--------|-----|
| Grain | BESTMALZ - Best Pilsen | 5 kg (100%) | 80.5 % | 4   |

## Hops

| Use for             | Name                | Amount | Time   | Alpha acid |
|---------------------|---------------------|--------|--------|------------|
| Boil                | Hallertau Tradition | 30 g   | 60 min | 5 %        |
| Boil                | Tettnang            | 20 g   | 30 min | 4 %        |
| Aroma (end of boil) | Mandarina Bavaria   | 20 g   | 15 min | 10 %       |
| Aroma (end of boil) | Tettnang            | 20 g   | 5 min  | 6.1 %      |

## Yeasts

| Name              | Type  | Form   | Amount | Laboratory  |
|-------------------|-------|--------|--------|-------------|
| FM704 Lutra Kveik | Lager | Liquid | 100 ml | Wyeast Labs |

## Extras

| Type        | Name            | Amount | Use for | Time   |
|-------------|-----------------|--------|---------|--------|
| Water Agent | Gips piwowarski | 2 g    | Mash    | 65 min |

|                        |                         |        |      |        |
|------------------------|-------------------------|--------|------|--------|
| Water Agent            | Kwas fosforowy          | 2 g    | Mash | 65 min |
| Water Agent            | Chlorek wapnia, roztwór | 4.5 g  | Mash | 65 min |
| Wartość wyliczona z 2g |                         |        |      |        |
| Fining                 | Whirlflock              | 1.25 g | Boil | 10 min |

## Notes

- Według kostki Palmera piwo jasne, o profilu zbalansowanym i średnie strukturze -stosunkiem siarczków do chlorków 1:1, wapń 100 ppm, alkaliczność resztkowa -100 (minus sto)  
Ph zacieru między 5.2 a 5.4  
Woda 1:1 kranowa ze zdeminalizowaną + sole  
*Aug 9, 2023, 10:28 PM*