

# German Pils

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **30**
- SRM **3.8**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **26.7 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **35.3 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.75 liter(s) / kg**
- Mash size **23.1 liter(s)**
- Total mash volume **29.2 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **25 min**
- Temp **72 C**, Time **35 min**
- Temp **77 C**, Time **1 min**

## Mash step by step

- Heat up **23.1 liter(s)** of strike water to **56.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **25 min** at **63C**
- Keep mash **35 min** at **72C**
- Keep mash **1 min** at **77C**
- Sparge using **18.4 liter(s)** of **76C** water or to achieve **35.3 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński         | 5.4 kg (87.8%) | 80 %  | 4   |
| Grain | Strzegom Monachijski typ I  | 0.3 kg (4.9%)  | 79 %  | 16  |
| Grain | Weyermann - Carapils        | 0.25 kg (4.1%) | 78 %  | 4   |
| Grain | Weyermann - Acidulated Malt | 0.2 kg (3.3%)  | 80 %  | 6   |

## Hops

| Use for             | Name                   | Amount | Time   | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil                | Hallertauer Mittelfruh | 50 g   | 60 min | 4.6 %      |
| Boil                | Tettnang               | 13 g   | 60 min | 4 %        |
| Boil                | Hallertauer Mittelfruh | 20 g   | 15 min | 4.6 %      |
| Boil                | Tettnang               | 20 g   | 15 min | 4 %        |
| Aroma (end of boil) | Hallertauer Mittelfruh | 28 g   | 1 min  | 4.6 %      |

|                     |          |      |       |     |
|---------------------|----------|------|-------|-----|
| Aroma (end of boil) | Tettnang | 30 g | 1 min | 4 % |
|---------------------|----------|------|-------|-----|

## Yeasts

| Name             | Type  | Form | Amount | Laboratory |
|------------------|-------|------|--------|------------|
| Saflager W 34/70 | Lager | Dry  | 23 g   | Fermentis  |

## Extras

| Type        | Name           | Amount | Use for | Time   |
|-------------|----------------|--------|---------|--------|
| Water Agent | Chlorek wapnia | 6.5 g  | Mash    | 0 min  |
| Water Agent | Kwas mlekowy   | 6.5 g  | Mash    | 0 min  |
| Fining      | WhirlFloc      | 2.5 g  | Boil    | 12 min |

## Notes

- Chlorek wapnia dodany przed zacieraniem do wody do zacierania.  
Kwas mlekowy dodany do wody użytej do wysładzania.  
*Dec 20, 2017, 1:07 PM*