

# Winterbier

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **20**
- SRM **10.9**
- Style **Oktoberfest/Märzen**

## Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **15 %**
- Size with trub loss **19.6 liter(s)**
- Boil time **70 min**
- Evaporation rate **6 %/h**
- Boil size **22.8 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

## Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **20 min**

## Mash step by step

- Heat up **17.5 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **60 min** at **64C**
- Keep mash **20 min** at **72C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

## Fermentables

| Type  | Name             | Amount       | Yield  | EBC |
|-------|------------------|--------------|--------|-----|
| Grain | Pilsner          | 4.6 kg (92%) | 80.5 % | 4   |
| Grain | Cara aroma (red) | 0.1 kg (2%)  | 78 %   | 50  |
| Grain | Chocolate Best   | 0.1 kg (2%)  | 75 %   | 900 |
| Grain | Carapils Best    | 0.1 kg (2%)  | 75 %   | 5   |
| Grain | Carahell Best    | 0.1 kg (2%)  | 75 %   | 15  |

## Hops

| Use for             | Name                | Amount | Time   | Alpha acid |
|---------------------|---------------------|--------|--------|------------|
| Boil                | Tettnang            | 10 g   | 60 min | 5 %        |
| Boil                | Hallertau Tradition | 10 g   | 60 min | 5.7 %      |
| Boil                | Tettnang            | 10 g   | 15 min | 5 %        |
| Boil                | Hallertau Tradition | 10 g   | 15 min | 5.7 %      |
| Aroma (end of boil) | Tettnang            | 10 g   | 5 min  | 5 %        |
| Aroma (end of boil) | Hallertau Tradition | 10 g   | 5 min  | 5.7 %      |

## Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

|                                 |       |        |        |             |
|---------------------------------|-------|--------|--------|-------------|
| Wyeast - 2206<br>Bavarian Lager | Lager | Liquid | 300 ml | Wyeast Labs |
|---------------------------------|-------|--------|--------|-------------|