

# pils pale ale

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **33**
- SRM **3.4**
- Style **Dortmunder Export**

## Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **32.9 liter(s)**

## Mash information

- Mash efficiency **96 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

## Steps

- Temp **51 C**, Time **15 min**
- Temp **67 C**, Time **60 min**

## Mash step by step

- Heat up **17.5 liter(s)** of strike water to **55.4C**
- Add grains
- Keep mash **15 min** at **51C**
- Keep mash **60 min** at **67C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **32.9 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount      | Yield | EBC |
|-------|----------------------|-------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (100%) | 80 %  | 5   |

## Hops

| Use for | Name                   | Amount | Time   | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil    | Marynka                | 20 g   | 60 min | 9 %        |
| Boil    | Hallertau Tradition PL | 20 g   | 60 min | 5.6 %      |
| Boil    | Brewers Gold           | 20 g   | 20 min | 5.2 %      |
| Boil    | Hallertau Tradition PL | 20 g   | 10 min | 5.6 %      |