

pils pale ale

- 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 % |