

## Pale Ale 3

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **23**
- SRM **13**
- Style **Belgian Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **20.6 liter(s)**

### Steps

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

### Mash step by step

- Heat up **15.4 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **17.4 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield | EBC  |
|-------|----------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 4 kg (77.7%)   | 80 %  | 6    |
| Grain | Viking Pale Ale malt | 0.5 kg (9.7%)  | 80 %  | 50   |
| Grain | Viking Pale Ale malt | 0.25 kg (4.9%) | 80 %  | 60   |
| Grain | Płatki pszeniczne    | 0.3 kg (5.8%)  | 85 %  | 3    |
| Grain | Viking Pale Ale malt | 0.1 kg (1.9%)  | 80 %  | 1000 |

### Hops

| Use for             | Name      | Amount | Time   | Alpha acid |
|---------------------|-----------|--------|--------|------------|
| Boil                | Marynka   | 20 g   | 60 min | 7.4 %      |
| Boil                | El Dorado | 10 g   | 15 min | 13.2 %     |
| Aroma (end of boil) | El Dorado | 10 g   | 0 min  | 13.2 %     |

### Yeasts

| Name                            | Type | Form  | Amount | Laboratory      |
|---------------------------------|------|-------|--------|-----------------|
| Mangrove Jack's -M15 Empire Ale | Ale  | Slant | 100 ml | Mangrove Jack's |

### Extras

| Type        | Name            | Amount | Use for | Time   |
|-------------|-----------------|--------|---------|--------|
| Water Agent | Gips piwowarski | 10 g   | Mash    | 60 min |

|        |              |       |      |        |
|--------|--------------|-------|------|--------|
| Fining | Whirclofor t | 1.2 g | Boil | 10 min |
|--------|--------------|-------|------|--------|