

## Pale sAle

- Gravity **14.7 BLG**
- ABV ---
- IBU **54**
- SRM **12.8**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

### Steps

- Temp **69 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **19.5 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **60 min** at **69C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **18.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

| Type  | Name                | Amount        | Yield | EBC |
|-------|---------------------|---------------|-------|-----|
| Grain | Strzegom Pale Ale   | 4 kg (61.5%)  | 79 %  | 6   |
| Grain | Strzegom Wiedeński  | 2 kg (30.8%)  | 79 %  | 10  |
| Grain | Strzegom Karmel 150 | 0.5 kg (7.7%) | 75 %  | 150 |

### Hops

| Use for | Name    | Amount | Time     | Alpha acid |
|---------|---------|--------|----------|------------|
| Boil    | Marynka | 50 g   | 60 min   | 10 %       |
| Boil    | Mosaic  | 20 g   | 10 min   | 10 %       |
| Boil    | Cascade | 20 g   | 5 min    | 6 %        |
| Boil    | Mosaic  | 30 g   | 1 min    | 10 %       |
| Dry Hop | Cascade | 30 g   | 5 day(s) | 6 %        |

### Yeasts

| Name                              | Type | Form  | Amount | Laboratory      |
|-----------------------------------|------|-------|--------|-----------------|
| Mangrove Jack's M44 US West Coast | Ale  | Slant | 150 ml | Mangrove Jack's |