

## pomarańczowe ale

- Gravity **11.2 BLG**
- ABV ---
- IBU **61**
- SRM **10.1**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.7 liter(s)**
- Total mash volume **16.9 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **12.7 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **19.3 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

| Type  | Name              | Amount         | Yield | EBC |
|-------|-------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale | 3.5 kg (82.9%) | 79 %  | 12  |
| Grain | crystal 150       | 0.2 kg (4.7%)  | --- % | 150 |
| Grain | Pszeniczny        | 0.3 kg (7.1%)  | 85 %  | 4   |
| Grain | Płatki owsiane    | 0.22 kg (5.2%) | 85 %  | 3   |

### Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Marynka | 10 g   | 45 min | 10 %       |
| Boil    | Perle   | 10 g   | 45 min | 7 %        |
| Boil    | eureka  | 30 g   | 15 min | 18 %       |
| Boil    | eureka  | 30 g   | 5 min  | 18 %       |

### Yeasts

| Name                               | Type | Form | Amount | Laboratory |
|------------------------------------|------|------|--------|------------|
| belgian wit m21<br>mangrove jack's | Ale  | Dry  | 10 g   | ---        |

### Extras

| Type   | Name              | Amount | Use for | Time   |
|--------|-------------------|--------|---------|--------|
| Spice  | kolendra          | 5 g    | Boil    | 15 min |
| Flavor | skórki pomarańczy | 10 g   | Boil    | 15 min |
| Flavor | skórki cytryny    | 10 g   | Boil    | 5 min  |
| Flavor | skórki pomarańczy | 10 g   | Boil    | 5 min  |