

## #191 Mandaryna powraca 2023

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **22**
- SRM **3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **17.7 liter(s)**
- Trub loss **6 %**
- Size with trub loss **19.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **6 %/h**
- Boil size **21.4 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12.3 liter(s)**
- Total mash volume **15.8 liter(s)**

### Steps

- Temp **52 C**, Time **10 min**
- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **12.3 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **12.6 liter(s)** of **76C** water or to achieve **21.4 liter(s)** of wort

### Fermentables

| Type  | Name                             | Amount         | Yield | EBC |
|-------|----------------------------------|----------------|-------|-----|
| Grain | Pale Ale Maris Otter Extra Crisp | 3 kg (85.7%)   | 82 %  | 3.5 |
| Grain | Pszeniczny Steinbach             | 0.5 kg (14.3%) | 81 %  | 4   |

### Hops

| Use for             | Name                      | Amount | Time     | Alpha acid |
|---------------------|---------------------------|--------|----------|------------|
| Boil                | Mandarina Bavaria DE 2022 | 5 g    | 60 min   | 7.8 %      |
| Aroma (end of boil) | Mandarina Bavaria DE 2022 | 45 g   | 10 min   | 7.8 %      |
| Dry Hop             | Mandarina Bavaria DE 2022 | 50 g   | 7 day(s) | 7.8 %      |

### Yeasts

| Name            | Type | Form  | Amount | Laboratory       |
|-----------------|------|-------|--------|------------------|
| FM53 Voss kveik | Ale  | Slant | 50 ml  | Fermentum Mobile |