

## #7 bitter browamator

- Gravity **9.8 BLG**
- ABV **3.8 %**
- IBU **42**
- SRM **8.5**
- Style **Standard/Ordinary Bitter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **13.5 %/h**
- Boil size **26.1 liter(s)**

### Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **4.7 liter(s) / kg**
- Mash size **16.9 liter(s)**
- Total mash volume **20.5 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **16.9 liter(s)** of strike water to **72C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

### Fermentables

| Type  | Name                                   | Amount         | Yield | EBC |
|-------|--|----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt              | 3.2 kg (88.9%) | 85 %  | 7   |
| Grain | Monachijski typ II 20-25 EBC Weyermann | 0.25 kg (6.9%) | 80 %  | 20  |
| Grain | Caraaroma                              | 0.15 kg (4.2%) | 78 %  | 400 |

### Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Comet   | 20 g   | 60 min | 8.3 %      |
| Boil    | Warrior | 10 g   | 15 min | 15.5 %     |
| Boil    | Comet   | 10 g   | 15 min | 8.3 %      |
| Boil    | Warrior | 20 g   | 5 min  | 15.5 %     |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Fermentis  |

### Notes

- fermentacja 21 dni - 19-21C  
*Mar 25, 2022, 5:07 PM*