

Bitter #3

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **40**
- SRM **9.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.6 liter(s)**

Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **18.2 liter(s)**

Steps

- Temp **68 C**, Time **60 min**

Mash step by step

- Heat up **13 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **20.8 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 4.5 kg (78.9%) | 80 % | 5 |
| Grain | Strzegom Karmel 150 | 0.15 kg (2.6%) | 75 % | 150 |
| Grain | Fawcett - Brown | 0.3 kg (5.3%) | 75 % | 150 |
| Sugar | Invert Sugar | 0.5 kg (8.8%) | 100 % | 0 |
| Grain | Cara Gold Castlemalting | 0.25 kg (4.4%) | 78 % | 120 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|---------|--------|--------|------------|
| Boil | Marynka | 35 g | 60 min | 9.5 % |
| Boil | Fuggles | 20 g | 15 min | 4.5 % |
| Whirlpool | Fuggles | 30 g | 60 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale | Slant | 250 ml | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|-------|
| Fining | Mech irlandzki | 4 g | Boil | 5 min |