

Bitter Challenger

- Gravity **12.4 BLG**
- ABV ---
- IBU **42**
- SRM **9.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **25 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **77 C**, Time **15 min**

Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **77C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **25 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------|----------------|-------|-----|
| Grain | Pale Ale -Malteurop | 3 kg (66.7%) | 80 % | 4 |
| Grain | Biscuit - Castel Maltng | 0.25 kg (5.6%) | 79 % | 50 |
| Grain | Fawcett - Crystal | 0.25 kg (5.6%) | 70 % | 130 |
| Grain | Strzegom Pale Ale | 1 kg (22.2%) | 79 % | 6 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| First Wort | Challenger | 30 g | 60 min | 8.3 % |
| Boil | Challenger | 20 g | 20 min | 8.3 % |
| Aroma (end of boil) | Challenger | 25 g | 1 min | 8.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------------|------|--------|---------|------------------|
| FM10 O czym szumią wierzby | Ale | Liquid | 1000 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

| | | | | |
|--------|----------------|-----|------|--------|
| Fining | mech irlandzki | 5 g | Boil | 15 min |
|--------|----------------|-----|------|--------|