

## Bitter premium

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **29**
- SRM **7.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **34.2 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **22.1 liter(s)**

### Steps

- Temp **55 C**, Time **10 min**
- Temp **68 C**, Time **60 min**
- Temp **74 C**, Time **3 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **62C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **60 min** at **68C**
- Keep mash **3 min** at **74C**
- Sparge using **24.7 liter(s)** of **76C** water or to achieve **34.2 liter(s)** of wort

### Fermentables

| Type    | Name                       | Amount         | Yield | EBC |
|---------|----------------------------|----------------|-------|-----|
| Grain   | Viking Pale Ale malt       | 5.5 kg (84.6%) | 80 %  | 5   |
| Grain   | Strzegom Monachijski typ I | 0.6 kg (9.2%)  | 79 %  | 16  |
| Adjunct | Zyto                       | 0.2 kg (3.1%)  | 75 %  | 3   |
| Grain   | Strzegom Karmel 300        | 0.2 kg (3.1%)  | 70 %  | 299 |

### Hops

| Use for | Name               | Amount | Time   | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil    | Magnum             | 35 g   | 60 min | 8.8 %      |
| Boil    | East Kent Goldings | 20 g   | 0 min  | 5.1 %      |
| Boil    | East Kent Goldings | 10 g   | 50 min | 5.1 %      |

### Yeasts

| Name                       | Type | Form   | Amount | Laboratory       |
|----------------------------|------|--------|--------|------------------|
| FM10 O czym szumią wierzby | Ale  | Liquid | 150 ml | Fermentum Mobile |

### Notes

- drodze 2 po biter  
*Apr 5, 2019, 11:38 PM*