

## AS lvl 2

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- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **47**
- SRM **28.3**
- Style **American Stout**

### 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 **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **29.3 liter(s)**

### Steps

- Temp **64 C**, Time **30 min**
- Temp **66 C**, Time **10 min**
- Temp **69 C**, Time **10 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **22 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **10 min** at **66C**
- Keep mash **10 min** at **69C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **10.6 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                     | Amount         | Yield | EBC |
|-------|--------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt     | 4.5 kg (61.5%) | 80 %  | 5   |
| Grain | Monachijski              | 1 kg (13.7%)   | 80 %  | 16  |
| Grain | Słód owsiany Fawcett     | 0.5 kg (6.8%)  | 61 %  | 5   |
| Grain | Fawcett - Brown          | 0.07 kg (1%)   | 72 %  | 180 |
| Grain | Jęczmień palony          | 0.25 kg (3.4%) | 55 %  | 985 |
| Grain | Fawcett - Pale Chocolate | 0.3 kg (4.1%)  | 71 %  | 600 |
| Grain | Karmelowy żytni Strzegom | 0.3 kg (4.1%)  | 75 %  | 150 |
| Grain | Płatki pszeniczne        | 0.4 kg (5.5%)  | 60 %  | 3   |

### Hops

| Use for | Name   | Amount | Time   | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil    | lunga  | 15 g   | 45 min | 11 %       |
| Boil    | Simcoe | 30 g   | 25 min | 13.2 %     |

|           |              |      |       |        |
|-----------|--------------|------|-------|--------|
| Boil      | Enigma (AUS) | 15 g | 5 min | 17.2 % |
| Whirlpool | Enigma (AUS) | 15 g | ---   | 17.2 % |
| Boil      | Idaho 7      | 15 g | 5 min | 12.7 % |
| Whirlpool | Idaho 7      | 15 g | ---   | 12.7 % |

## Notes

- Na zimno 20g simcoe idaho i enigma  
37l wody 10g kredy 2g sody oczyszczonej 2g gipsu piwowarskiego  
Ca+2  
Mg+2  
SO4-2  
Na+  
Cl-  
HCO3-  
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