

## tropical stout

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- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **38**
- SRM **42.6**
- Style **Foreign Extra 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 **3.5 liter(s) / kg**
- Mash size **23.7 liter(s)**
- Total mash volume **30.4 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **23.7 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **8.4 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                   | Amount         | Yield | EBC  |
|-------|------------------------|----------------|-------|------|
| Grain | Briess - Pale Ale Malt | 5 kg (74%)     | 80 %  | 7    |
| Grain | Płatki owsiane         | 0.5 kg (7.4%)  | 85 %  | 3    |
| Grain | Jęczmień palony        | 0.5 kg (7.4%)  | 55 %  | 985  |
| Grain | Chocolate Malt (UK)    | 0.38 kg (5.6%) | 73 %  | 1100 |
| Grain | Abbey Castle           | 0.38 kg (5.6%) | 80 %  | 45   |

### Hops

| Use for | Name   | Amount | Time      | Alpha acid |
|---------|--------|--------|-----------|------------|
| Boil    | Galaxy | 30 g   | 60 min    | 13.3 %     |
| Dry Hop | relax  | 30 g   | 14 day(s) | 1 %        |

### Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-04 | Ale  | Dry  | 22 g   | safale     |

### Extras

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

|        |                            |      |      |        |
|--------|----------------------------|------|------|--------|
| Spice  | skórka słodkiej pomarańczy | 25 g | Boil | 15 min |
| Fining | mech irlandzki             | 10 g | Boil | 15 min |
| Spice  | Cayenne Pepper             | 5 g  | Boil | 15 min |