

stout

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **27**
- SRM **46.1**

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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **26.8 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **20.1 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **11.9 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 | 2.5 kg (37.3%) | 80 % | 5 |
| Grain | Viking Pilsner malt | 2.5 kg (37.3%) | 82 % | 4 |
| Grain | Fawcett - Pszeniczny Czekoladowy | 1 kg (14.9%) | 73 % | 1001 |
| Grain | Strzegom Karmel 300 | 0.2 kg (3%) | 70 % | 299 |
| Grain | Płatki owsiane | 0.5 kg (7.5%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 30 g | 60 min | 10 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------|------|-------|--------|------------|
| Mangrove Jack's M36 | Ale | Slant | 100 ml | --- |