

FEST

- Gravity **18.7 BLG**
- ABV **8.1 %**
- IBU **52**
- SRM **51.2**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11 liter(s)**
- Boil time **75 min**
- Evaporation rate **15 %/h**
- Boil size **14.3 liter(s)**

Mash information

- Mash efficiency **67 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **11.3 liter(s)**
- Total mash volume **15.8 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **11.3 liter(s)** of strike water to **74C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **1 min** at **78C**
- Sparge using **7.5 liter(s)** of **76C** water or to achieve **14.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|-------|------|
| Grain | Pilzneński | 1.35 kg (30%) | 81 % | 4 |
| Grain | Cookies viking | 1.35 kg (30%) | 79 % | 70 |
| Grain | Cara Gold Castlemalting | 0.225 kg (5%) | 78 % | 120 |
| Grain | Fawcett - Chocolate | 0.225 kg (5%) | 71 % | 1150 |
| Grain | Fawcett - Pale Chocolate | 0.45 kg (10%) | 71 % | 600 |
| Grain | Oats, Flaked | 0.45 kg (10%) | 80 % | 2 |
| Grain | Enzymatyczny | 0.45 kg (10%) | 80 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Centennial | 30 g | 60 min | 10.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------|------|-------|--------|------------|
| Omega Kölsch II | Ale | Slant | 120 ml | Omega |