

FES homebrewin

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **38**
- SRM **31.3**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **10.5 liter(s)**
- Trub loss **2 %**
- Size with trub loss **10.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.8 liter(s)**
- Total mash volume **13 liter(s)**

Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **9.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **5.9 liter(s)** of **76C** water or to achieve **12.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.5 kg (76.9%) | 80 % | 5 |
| Grain | Viking Munich Malt | 0.25 kg (7.7%) | 78 % | 18 |
| Grain | płatki jęczmienne | 0.2 kg (6.2%) | 60 % | 4 |
| Grain | Viking Czekoladowy ciemny | 0.15 kg (4.6%) | 67 % | 900 |
| Grain | Jęczmień palony | 0.15 kg (4.6%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | Challenger | 25 g | 60 min | 7 % |
| Boil | East Kent Goldings | 25 g | 5 min | 5.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale | Slant | 100 ml | Fermentis |