

# FES homebrewin

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- 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  |