

# FES50

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **66**
- SRM **41.8**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **18.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**

## Mash step by step

- Heat up **13.8 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **9.3 liter(s)** of **76C** water or to achieve **18.5 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount          | Yield  | EBC  |
|-------|----------------------|-----------------|--------|------|
| Grain | Viking Pale Ale Malt | 3.75 kg (81.5%) | 80 %   | 7    |
| Grain | Barley, Flaked       | 0.2 kg (4.3%)   | 70 %   | 3    |
| Grain | CHÂTEAU BLACK        | 0.2 kg (4.3%)   | 73.5 % | 1761 |
| Grain | Roasted Barley       | 0.15 kg (3.3%)  | 55 %   | 799  |
| Grain | Carafa I (Weyermann) | 0.1 kg (2.2%)   | 77.9 % | 852  |
| Grain | Special B Malt       | 0.1 kg (2.2%)   | 65.2 % | 479  |
| Grain | Special W            | 0.1 kg (2.2%)   | 75 %   | 405  |

## Hops

| Use for | Name                     | Amount | Time   | Alpha acid |
|---------|--------------------------|--------|--------|------------|
| Boil    | Vic Secret               | 25 g   | 60 min | 15.5 %     |
| Boil    | East Kent Goldings (EKG) | 10 g   | 20 min | 5 %        |
| Boil    | Fuggle                   | 10 g   | 20 min | 4.5 %      |
| Boil    | Pulawski                 | 10 g   | 10 min | 7.5 %      |
| Boil    | Hallertauer              | 10 g   | 5 min  | 4.8 %      |

## Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

|              |     |        |        |             |
|--------------|-----|--------|--------|-------------|
| American Ale | Ale | Liquid | 124 ml | Wyeast Labs |
|--------------|-----|--------|--------|-------------|

### Extras

| Type        | Name                | Amount | Use for | Time   |
|-------------|---------------------|--------|---------|--------|
| Water Agent | Phosphoric Acid 85% | 1.48 g | Mash    | 60 min |
| Water Agent | Calcium Chloride    | 1 g    | Mash    | 60 min |