

## FES't #2

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- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **30**
- SRM **31.2**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **22.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount         | Yield | EBC  |
|-------|-----------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt        | 5 kg (71.4%)   | 80 %  | 5    |
| Grain | Płatki owsiane              | 1 kg (14.3%)   | 60 %  | 3    |
| Grain | Strzegom Karmel 150         | 0.25 kg (3.6%) | 75 %  | 150  |
| Grain | Weyermann Specjal W         | 0.25 kg (3.6%) | 68 %  | 300  |
| Grain | Strzegom Czekoladowy ciemny | 0.25 kg (3.6%) | 68 %  | 1200 |
| Grain | Jęczmień palony             | 0.25 kg (3.6%) | 55 %  | 985  |

### Hops

| Use for             | Name    | Amount | Time   | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil                | Magnum  | 25 g   | 60 min | 10.6 %     |
| Aroma (end of boil) | Sybilla | 30 g   | 10 min | 6.4 %      |

### Yeasts

| Name                  | Type | Form  | Amount | Laboratory       |
|-----------------------|------|-------|--------|------------------|
| FM42 Stare Nadreńskie | Ale  | Slant | 400 ml | Fermentum Mobile |

## Extras

| Type   | Name           | Amount | Use for  | Time   |
|--------|----------------|--------|----------|--------|
| Fining | Mech irlandzki | 1 g    | Boil     | 10 min |
| Other  | Witamina C     | 4 g    | Bottling | ---    |