

## FES podejście 19.09 KLASYK

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **53**
- SRM **37.1**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.9 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **5.9 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

### Fermentables

| Type  | Name                       | Amount         | Yield | EBC  |
|-------|----------------------------|----------------|-------|------|
| Grain | Pilzneński                 | 2 kg (50%)     | 81 %  | 4    |
| Grain | Strzegom Monachijski typ I | 0.8 kg (20%)   | 79 %  | 16   |
| Grain | Barley, Flaked             | 0.17 kg (4.3%) | 70 %  | 4    |
| Grain | VM Pale Cookie             | 0.2 kg (5%)    | 70 %  | 30   |
| Grain | VM Caramel Aromatic        | 0.2 kg (5%)    | 75 %  | 200  |
| Grain | Carafa III Special         | 0.2 kg (5%)    | 70 %  | 1034 |
| Grain | Jęczmień palony            | 0.2 kg (5%)    | 55 %  | 985  |
| Grain | Oats, Flaked               | 0.23 kg (5.7%) | 80 %  | 2    |

### Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Marynka | 40 g   | 60 min | 8.3 %      |

### Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 6.6 g  | Fermentis  |