

## FES resztkowy

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- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **57**
- SRM **51.8**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **4 %**
- Size with trub loss **22.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **24.2 liter(s)**
- Total mash volume **32.6 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **5 min**

### Mash step by step

- Heat up **24.2 liter(s)** of strike water to **75.1C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **75C**
- Sparge using **10.6 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

### Fermentables

| Type  | Name                           | Amount         | Yield | EBC  |
|-------|--------------------------------|----------------|-------|------|
| Grain | Pilzneński                     | 2.3 kg (27.5%) | 81 %  | 4    |
| Grain | Pale Ale                       | 2 kg (23.9%)   | 80 %  | 7    |
| Grain | Pszeniczny                     | 1 kg (12%)     | 85 %  | 4    |
| Grain | Monachijski                    | 1.1 kg (13.2%) | 80 %  | 16   |
| Grain | Caraaroma                      | 1.2 kg (14.4%) | 78 %  | 400  |
| Grain | Strzegom<br>Czekoladowy ciemny | 0.26 kg (3.1%) | 68 %  | 1200 |
| Grain | Weyermann -<br>Carafa III      | 0.44 kg (5.3%) | 70 %  | 1024 |
| Grain | Jęczmień palony                | 0.06 kg (0.7%) | 55 %  | 900  |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Savinjski Golding | 50 g   | 60 min | 2.9 %      |
| Boil    | Vic Secret        | 25 g   | 60 min | 18.1 %     |
| Boil    | Savinjski Golding | 50 g   | 15 min | 2.9 %      |

### Yeasts

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

|       |     |       |        |     |
|-------|-----|-------|--------|-----|
| us 05 | Ale | Slant | 300 ml | --- |
|-------|-----|-------|--------|-----|

### Extras

| Type   | Name                                | Amount | Use for   | Time     |
|--------|-------------------------------------|--------|-----------|----------|
| Flavor | płatki dębowe amerykańskie (koniak) | 50 g   | Secondary | 7 day(s) |