

Weselny FES

- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **39**
- SRM **36.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.8 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **70 C**, Time **5 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **70C**
- Keep mash **1 min** at **76C**
- Sparge using **11.8 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|-----------------|-------|------|
| Grain | Viking Pilsner malt | 4 kg (72.7%) | 82 % | 4 |
| Grain | Słód karmelowy Viking Malt | 0.25 kg (4.5%) | 75 % | 600 |
| Grain | Carafa Special Typ 2 | 0.25 kg (4.5%) | 70 % | 1100 |
| Grain | Jęczmień palony | 0.25 kg (4.5%) | 55 % | 1000 |
| Grain | Płatki jęczmienne | 0.75 kg (13.6%) | 70 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil | Marynka | 30 g | 60 min | 8.8 % |
| Boil | Marynka | 20 g | 10 min | 8.8 % |
| Aroma (end of boil) | Willamette | 50 g | 1 min | 5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |