

FEZ mint

- Gravity **20 BLG**
- ABV **8.8 %**
- IBU **62**
- SRM **50.5**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **15.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **19.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **22.6 liter(s)**
- Total mash volume **29.6 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **10 min**

Mash step by step

- Heat up **22.6 liter(s)** of strike water to **75.5C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **72C**
- Sparge using **4.4 liter(s)** of **76C** water or to achieve **19.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 3.4 kg (48.2%) | 80 % | 5 |
| Grain | Caraaroma | 0.5 kg (7.1%) | 78 % | 400 |
| Grain | Weyermann - Carafa I | 0.3 kg (4.3%) | 70 % | 690 |
| Grain | Strzegom Monachijski typ II | 1 kg (14.2%) | 79 % | 22 |
| Grain | Płatki owsiane | 0.4 kg (5.7%) | 60 % | 3 |
| Grain | Strzegom Pilzneński | 0.5 kg (7.1%) | 80 % | 4 |
| Grain | Strzegom Czekoladowy ciemny | 0.25 kg (3.5%) | 68 % | 1200 |
| Grain | Jęczmień palony | 0.2 kg (2.8%) | 55 % | 985 |
| Grain | Słód pszeniczny ciemny wayermann | 0.5 kg (7.1%) | 81 % | 17 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 25 g | 60 min | 14.5 % |
| Whirlpool | Sabro | 15 g | 30 min | 15 % |
| Boil | Columbus/Tomahawk/Zeus | 10 g | 50 min | 14.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|-------|--------|------------------|
| FM12 W szkocką kratę | Ale | Slant | 300 ml | Fermentum Mobile |