

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