

FES z piwowara

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **49**
- SRM **35.5**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.5 liter(s)**
- Total mash volume **31.4 liter(s)**

Steps

- Temp **65 C**, Time **70 min**
- Temp **75 C**, Time **15 min**

Mash step by step

- Heat up **23.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **70 min** at **65C**
- Keep mash **15 min** at **75C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **29.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (63.7%)	80 %	5
Grain	Strzegom Monachijski typ I	1 kg (12.7%)	79 %	16
Grain	Castle Cafe	0.3 kg (3.8%)	75.5 %	500
Grain	Karmelowy Jasny 30EBC	0.25 kg (3.2%)	75 %	30
Grain	Jęczmień palony	0.3 kg (3.8%)	55 %	985
Grain	Strzegom Czekoladowy ciemny	0.2 kg (2.5%)	68 %	1200
Grain	Fawcett - Pale Chocolate	0.2 kg (2.5%)	71 %	600
Grain	Płatki owsiane	0.6 kg (7.6%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	50 g	60 min	10 %
Boil	Magnum	5 g	60 min	13.5 %
Boil	Lublin (Lubelski)	43 g	15 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	fermentis