

FES piwowar

- Gravity **18.4 BLG**
- ABV ---
- IBU **56**
- SRM **41.4**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.9 liter(s)**
- Total mash volume **31.8 liter(s)**

Steps

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

Mash step by step

- Heat up **23.9 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **70 min** at **65C**
- Keep mash **15 min** at **75C**
- Sparge using **13.6 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	5 kg (62.9%)	85 %	7
Grain	Strzegom Monachijski typ I	1 kg (12.6%)	79 %	16
Grain	płatki żytnie	0.5 kg (6.3%)	80 %	4
Grain	Viking Czekoladowy ciemny	0.2 kg (2.5%)	68 %	1200
Grain	Fawcett - Pszeniczny Czekoladowy	0.2 kg (2.5%)	73 %	1001
Grain	Jęczmień palony Weyermann	0.3 kg (3.8%)	55 %	985
Grain	Karmelowy Jasny 30EBC Viking	0.25 kg (3.1%)	75 %	30
Grain	Fawcett - Pale Chocolate	0.2 kg (2.5%)	71 %	600
Grain	Castle Cafe	0.3 kg (3.8%)	75.5 %	480

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga szyszka	35 g	60 min	11 %

Boil	lunga pellet	25 g	60 min	11 %
Aroma (end of boil)	Lublin (Lubelski)	30 g	15 min	5 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Slant	150 ml	Saflager