

# FES

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- Gravity **20.7 BLG**
- ABV ---
- IBU **49**
- SRM **51.5**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **22.1 liter(s)**
- Total mash volume **30 liter(s)**

## Steps

- Temp **62 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **74 C**, Time **5 min**

## Mash step by step

- Heat up **22.1 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **74C**
- Sparge using **13.6 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	3 kg (35%)	79 %	10
Grain	Strzegom Pilzneński	2.5 kg (29.2%)	80 %	4
Grain	Pszeniczny	0.5 kg (5.8%)	85 %	4
Grain	Kawowy Jasny Castle	0.5 kg (5.8%)	--- %	250
Grain	Special W Weyermann	0.5 kg (5.8%)	--- %	280
Grain	Carafa (R) typ III	0.5 kg (5.8%)	--- %	1400
Grain	Jęczmień palony	0.4 kg (4.7%)	55 %	985
Sugar	Cukier trzcinowy	0.5 kg (5.8%)	--- %	---
Liquid Extract	Syrop klonowy	0.17 kg (2%)	--- %	---

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Summit	40 g	60 min	14 %
Aroma (end of boil)	Ahtanum	30 g	10 min	5 %
Aroma (end of boil)	Glacier	30 g	10 min	5.5 %