

# #1 FES

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- Gravity **15.8 BLG**
- ABV ---
- IBU **47**
- SRM **36.2**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **21.7 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **26.1 liter(s)**

## Steps

- Temp **69 C**, Time **60 min**

## Mash step by step

- Heat up **20.3 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **69C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **21.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (86.2%)	79 %	6
Grain	Roasted Barley	0.2 kg (3.4%)	55 %	591
Grain	Barley, Flaked	0.4 kg (6.9%)	70 %	4
Grain	Strzegom Czekoladowy ciemny	0.2 kg (3.4%)	68 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	60 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Gozdawa PAY7	Ale	Dry	10 g	---