

# FES powrotowy

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- Gravity **15.9 BLG**
- ABV ---
- IBU **48**
- SRM **38.3**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **10 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **34.5 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.8 liter(s)**
- Total mash volume **29 liter(s)**

## Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **0 min**

## Mash step by step

- Heat up **21.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **76C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **34.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	6 kg (82.8%)	80 %	5
Grain	Jęczmień palony	0.25 kg (3.4%)	55 %	985
Grain	Strzegom Czekoladowy ciemny	0.5 kg (6.9%)	68 %	1200
Grain	Strzegom Czekoladowy jasny	0.5 kg (6.9%)	68 %	400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	60 min	10 %
Boil	Marynka	20 g	30 min	10 %
Aroma (end of boil)	Marynka	30 g	0 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Fermentis