

# FES

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- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **62**
- SRM **35.1**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **4 %**
- Size with trub loss **41.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **50.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **43.7 liter(s)**
- Total mash volume **56.2 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **5 min**

## Mash step by step

- Heat up **43.7 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **75C**
- Sparge using **19 liter(s)** of **76C** water or to achieve **50.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	7.27 kg (58.2%)	81 %	4
Grain	Pszeniczny	0.91 kg (7.3%)	85 %	4
Grain	Brown Malt (British Chocolate)	0.91 kg (7.3%)	70 %	175
Grain	Carafa	1 kg (8%)	70 %	664
Grain	Jęczmień palony	0.4 kg (3.2%)	55 %	900
Grain	Caraaroma	0.55 kg (4.4%)	78 %	400
Grain	Płatki owsiane	1.45 kg (11.6%)	85 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	67.27 g	60 min	13.5 %
Boil	Marynka	27.27 g	60 min	10 %
Boil	Hallertau	36.36 g	10 min	4.5 %
Boil	Hallertau	18.18 g	5 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
us 05	Ale	Slant	363.64 ml	---

## Extras

Type	Name	Amount	Use for	Time
Flavor	płatki dębowe amerykańskie (koniak)	90.91 g	Secondary	7 day(s)