

# FES podejście 12321

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **55**
- SRM **33.2**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **21.2 liter(s)**
- Total mash volume **28.5 liter(s)**

## Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **21.2 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.8 kg (65.8%)	81 %	4
Grain	Płatki owsiane	0.6 kg (8.2%)	85 %	3
Grain	Płatki jęczmienne	0.6 kg (8.2%)	85 %	3
Grain	VM Pale Cookie	0.3 kg (4.1%)	70 %	30
Grain	VM Caramel Aromatic	0.3 kg (4.1%)	75 %	200
Grain	Carafa III Special	0.4 kg (5.5%)	70 %	1034
Grain	Jęczmień palony	0.3 kg (4.1%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	50 g	60 min	13.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	13.2 g	Fermentis