

## FES 2

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **50**
- SRM **54.9**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.9 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.2 liter(s)**
- Total mash volume **17.6 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **0 min**

### Mash step by step

- Heat up **13.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **0 min** at **76C**
- Sparge using **7.1 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	2 kg (45.5%)	81 %	6
Grain	Strzegom Wiedeński	0.5 kg (11.4%)	79 %	10
Grain	Płatki owsiane	0.5 kg (11.4%)	60 %	3
Grain	Pszeniczny	0.3 kg (6.8%)	85 %	4
Grain	Caraaroma	0.2 kg (4.5%)	78 %	400
Grain	Special B Malt	0.2 kg (4.5%)	65.2 %	315
Grain	Weyermann - Carafa I	0.2 kg (4.5%)	70 %	690
Grain	Strzegom Czekoladowy ciemny	0.2 kg (4.5%)	68 %	1200
Grain	Fawcett - Pszeniczny Czekoladowy	0.2 kg (4.5%)	73 %	1001
Grain	Jęczmień palony	0.1 kg (2.3%)	55 %	985

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sabro	11 g	65 min	15 %

Boil	Ekuanot	7 g	65 min	13.5 %
Boil	East Kent Goldings	20 g	20 min	6.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP007 - Dry English Ale Yeast	Ale	Liquid	110 ml	White Labs

## Notes

- Słody palone wrzucone po godzinie zacierania.  
Mech irlandzki 3,5g na 15min  
*Mar 9, 2022, 11:32 PM*