

## FES XX22

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- Gravity **17.7 BLG**
- ABV **7.6 %**
- IBU **47**
- SRM **38.2**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **29.3 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **21.6 liter(s)** of strike water to **76.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **13.9 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Golden Promise	5 kg (64.9%)	81 %	4
Grain	Weyermann - Pilsner Malt	0.5 kg (6.5%)	81 %	5
Grain	Weyermann pszeniczny jasny	0.6 kg (7.8%)	80 %	6
Grain	Weyermann jęczmień palony	0.26 kg (3.4%)	55 %	1400
Grain	Płatki owsiane błyskawiczne	0.3 kg (3.9%)	60 %	3
Grain	Płatki jęczmienne	0.2 kg (2.6%)	50 %	3
Grain	Strzegom Czekoladowy jasny	0.2 kg (2.6%)	68 %	400
Grain	Strzegom Karmel 600	0.1 kg (1.3%)	68 %	601
Grain	Strzegom Karmel 300	0.1 kg (1.3%)	70 %	299
Grain	Castle Malting - Coffee Malt	0.25 kg (3.2%)	74 %	500
Grain	Simpsons - Black Malt	0.2 kg (2.6%)	70 %	1084

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	50 g	60 min	6.3 %
Boil	Marynka	30 g	60 min	8.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M42 New World Strong Ale	Ale	Dry	10 g	Mangrove Jack's