

## Fes xd

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- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **30**
- SRM **40.8**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.7 liter(s)**
- Total mash volume **31.6 liter(s)**

### Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **23.7 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.9 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	1.7 kg (21.5%)	81 %	4
Grain	Carafa	0.2 kg (2.5%)	70 %	664
Grain	Jęczmień palony	0.2 kg (2.5%)	55 %	985
Grain	Caraaroma	0.2 kg (2.5%)	78 %	400
Grain	Carafa III	0.2 kg (2.5%)	70 %	1034
Grain	Briess - Pale Ale Malt	1.5 kg (19%)	80 %	7
Grain	Carafa II	0.6 kg (7.6%)	70 %	812
Grain	Płatki owsiane	0.5 kg (6.3%)	85 %	3
Grain	Pszeniczny	2.8 kg (35.4%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	50 min	10 %

### Yeasts

Name	Type	Form	Amount	Laboratory
US 04	Ale	Dry	10 g	FERM