

Sosnowy FES

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **41**
- SRM **34.7**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 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 **45 C**, Time **15 min**
- Temp **50 C**, Time **15 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **79 C**, Time **5 min**

Mash step by step

- Heat up **23.7 liter(s)** of strike water to **49.2C**
- Add grains
- Keep mash **15 min** at **45C**
- Keep mash **15 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **79C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg (50.6%)	81 %	4
Grain	Strzegom Pszeniczny	2 kg (25.3%)	81 %	6
Grain	Strzegom Monachijski typ II	1 kg (12.7%)	79 %	22
Grain	Weyermann Caramunich 3	0.2 kg (2.5%)	76 %	150
Grain	Carafa III	0.3 kg (3.8%)	70 %	1034
Grain	Pszeniczny Czekoladowy	0.2 kg (2.5%)	73 %	1001
Grain	Jęczmień palony	0.1 kg (1.3%)	55 %	985
Grain	Strzegom Barwiący	0.1 kg (1.3%)	68 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	60 min	10 %
Aroma (end of boil)	Simcoe	20 g	0 min	13.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	23 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Spice	Pędy Sosny	40 g	Boil	15 min
Spice	Pędy Sosny - herbatka	0 g	Bottling	---