

Ale FES_t

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **34**
- SRM **37.4**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.1 liter(s)**
- Total mash volume **28.1 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 **21.1 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **11.2 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Golden Promise	5 kg (71.1%)	81 %	4
Grain	Strzegom Karmel 600	0.31 kg (4.4%)	68 %	601
Grain	Strzegom Karmel 300	0.41 kg (5.8%)	70 %	299
Grain	Jęczmień palony	0.158 kg (2.2%)	55 %	1100
Grain	Pszenica palona	0.056 kg (0.8%)	55 %	900
Grain	Płatki owsiane	0.5 kg (7.1%)	85 %	3
Grain	Strzegom Czekoladowy jasny	0.6 kg (8.5%)	68 %	400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	60 min	7.3 %
Aroma (end of boil)	Spalt Select	30 g	10 min	4.6 %
Whirlpool	Spalt Select	30 g	15 min	4.6 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M42 New World Strong Ale	Ale	Slant	400 ml	Mangrove Jack's