#28 FES

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **64**
- SRM **49.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **2 %**
- Size with trub loss **20.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **26 liter(s)**

Mash information

- Mash efficiency **73.5 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24.7 liter(s)**
- Total mash volume **32.9 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **80 C**, Time **1 min**

Mash step by step

- Heat up **24.7 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **80C**
- Sparge using **9.5 liter(s)** of **76C** water or to achieve **26 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	6.2 kg *(75.4%)*	85 %	7
Grain	Płatki owsiane	0.68 kg *(8.3%)*	60 %	3
Grain	Caraaroma	0.42 kg *(5.1%)*	78 %	400
Grain	Simpsons - Roasted Barley	0.67 kg *(8.2%)*	1 %	1100
Grain	Weyermann - Chocolate Wheat	0.25 kg *(3%)*	1 %	1050

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	60 g	60 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
Lallemand - LalBrew Verdant IPA	Ale	Slant	300 ml	Lallemand

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.