FEs

- Gravity **22.5 BLG**
- ABV **10.2 %**
- IBU **71**
- SRM **59.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.6 liter(s) / kg**
- Mash size **28.1 liter(s)**
- Total mash volume **38.9 liter(s)**

Steps

- Temp **55 C**, Time **15 min**
- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **77 C**, Time **0 min**

Mash step by step

- Heat up **28.1 liter(s)** of strike water to **61.7C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **60 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **77C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.4 kg *(31.5%)*	81 %	4
Grain	Słód Wędzony Steinbach	3 kg *(27.8%)*	80 %	5
Grain	Strzegom Torf	2 kg *(18.5%)*	85 %	4
Grain	Fawcett - Pale Chocolate	0.5 kg *(4.6%)*	1 %	600
Grain	Bestmalz Red X	0.5 kg *(4.6%)*	79 %	30
Grain	Weyermann - Chocolate Wheat	0.5 kg *(4.6%)*	1 %	788
Grain	Black (Patent) Malt	0.5 kg *(4.6%)*	1 %	985
Grain	Carafa III	0.4 kg *(3.7%)*	1 %	1034

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	45 g	60 min	13 %
Boil	Simcoe	40 g	30 min	13.2 %

Yeasts

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

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale