#35 FES

- Gravity **18 BLG**
- ABV **---**
- IBU **45**
- SRM **40.7**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **65 min**
- Evaporation rate **15 %/h**
- Boil size **38.4 liter(s)**

Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22.9 liter(s)**
- Total mash volume **32 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **22.9 liter(s)** of strike water to **72.8C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **24.6 liter(s)** of **76C** water or to achieve **38.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	8 kg *(87.5%)*	80 %	4
Grain	Caraaroma	0.5 kg *(5.5%)*	78 %	400
Grain	Jęczmień palony	0.3 kg *(3.3%)*	55 %	985
Grain	Strzegom Czekoladowy ciemny	0.2 kg *(2.2%)*	68 %	1200
Grain	Barley, Flaked	0.14 kg *(1.5%)*	70 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	50 g	60 min	10.6 %
Aroma (end of boil)	Saaz (Czech Republic)	58 g	20 min	4.4 %

Notes

- 11 litrów + dwie laski wanilii przekrojone na pół macerowane w rumie strock 80% (15ml)
  11 litrów + śliwki wędzone (ok. 220g.) z wanilią macerowane w spirytusie 70%
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Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.