

## Świąteczny czarny płyn 2

- Gravity **18.4 BLG**
- ABV **8 %**
- IBU **36**
- SRM **48.8**
- Style **Christmas/Winter Specialty Spiced Beer**

### 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 **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **29 liter(s)**
- Total mash volume **37.2 liter(s)**

### Steps

- Temp **63 C**, Time **20 min**
- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **20 min**

### Mash step by step

- Heat up **29 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **30 min** at **66C**
- Keep mash **20 min** at **72C**
- Sparge using **4.6 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	3 kg (36.3%)	79 %	10
Grain	Monachijski	3 kg (36.3%)	80 %	16
Grain	Strzegom pszenica prażona	0.75 kg (9.1%)	70 %	1000
Grain	Carafa III	0.325 kg (3.9%)	70 %	1034
Grain	Płatki pszeniczne	0.5 kg (6%)	85 %	3
Grain	Melanoiden Malt	0.2 kg (2.4%)	80 %	39
Grain	Płatki owsiane	0.5 kg (6%)	60 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	10 %
Boil	Tradition	20 g	60 min	5.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11.5 g	---

## Extras

Type	Name	Amount	Use for	Time
Spice	kardamon	4 g	Boil	20 min
Spice	anyż gwieździsty	10 g	Boil	20 min
Spice	Laska cynamonu	15 g	Boil	20 min
Spice	wanilia	5 g	Boil	20 min
Spice	goździki	10 g	Boil	20 min
Spice	gałka muszkatałowa	3 g	Boil	20 min