

czarny chleb i czarna kawa

- Gravity **12.6 BLG**
- ABV ---
- IBU **26**
- SRM **33.3**
- Style **Sweet Stout**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **0 %**
- Size with trub loss **30 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **34.9 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.05 liter(s)**
- Total mash volume **25.4 liter(s)**

Steps

- Temp **68 C**, Time **45 min**

Mash step by step

- Heat up **19.05 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **45 min** at **68C**
- Sparge using **22.2 liter(s)** of **76C** water or to achieve **34.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg	80 %	3
Grain	Oats, Flaked	0.6 kg	80 %	1
Grain	Carafa Special II (Weyermann)	0.25 kg	77.9 %	1106
Sugar	Milk Sugar (Lactose)	0.5 kg	76.1 %	-1
Grain	Chocolate Malt	0.5 kg	73 %	1199

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Flyer	20 g	50 min	9 %
Boil	Flyer	30 g	15 min	9 %

Yeasts

Name	Type	Form	Amount	Laboratory
Nottingham	Ale	Dry	--- g	Danstar