

Popiół i diament

- Gravity **9.8 BLG**
- ABV **3.8 %**
- IBU **71**
- SRM **3**
- Style **Other Smoked Beer**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.2 liter(s)**
- Total mash volume **16.3 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **12.2 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2 kg (49.1%)	81 %	4
Grain	Casle Malting Whisky Nature	2 kg (49.1%)	85 %	4
Grain	Weyermann - Acidulated Malt	0.07 kg (1.7%)	80 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	38 g	60 min	6 %
Boil	Target	31 g	30 min	10.5 %
Aroma (end of boil)	Azacca	32 g	10 min	14 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	12 g	---