Geometria Wykreślna

- Gravity **18.4 BLG**
- ABV **8 %**
- IBU **48**
- SRM **49.1**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.2 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **20.1 liter(s)**

Steps

- Temp **62 C**, Time **50 min**
- Temp **72 C**, Time **10 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **70.4C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **10 min** at **72C**
- Sparge using **11.6 liter(s)** of **76C** water or to achieve **20.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	pale ale	4 kg *(69.6%)*	79 %	6
Grain	czekoladowy barwiący	0.5 kg *(8.7%)*	68 %	1200
Grain	Caramunich III	0.5 kg *(8.7%)*	73 %	150
Grain	jęczmień palony	0.25 kg *(4.3%)*	70 %	1000
Grain	Płatki owsiane	0.5 kg *(8.7%)*	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	magnum	20 g	60 min	13 %
Boil	mosaic	15 g	30 min	12 %
Boil	mosaic	10 g	10 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-04	Ale	Dry	6 g	---

Extras

Type	Name	Amount	Use for	Time

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

Flavor	kawa espresso	100 g	Boil	1 min