WrogiePiwo

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **33**
- SRM **4.2**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.9 liter(s)**
- Total mash volume **22.6 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **16.9 liter(s)** of strike water to **60.9C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **30 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg *(88.5%)*	80 %	4
Grain	Strzegom Wiedeński	0.5 kg *(8.8%)*	79 %	10
Grain	Karmelowy Jasny 30EBC	0.1 kg *(1.8%)*	75 %	30
Grain	Abbey Castle	0.05 kg *(0.9%)*	80 %	45

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Herkules	15 g	50 min	17 %
Boil	Saaz (Czech Republic)	20 g	30 min	4.5 %
Boil	Saaz (Czech Republic)	20 g	5 min	4.5 %
Boil	Styrian Golding	20 g	5 min	3.6 %

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