Ciemne mocne, porter na górniakach

- Gravity **22 BLG**
- ABV **9.9 %**
- IBU **39**
- SRM **28.8**
- Style **Baltic Porter**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **29.9 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **29.7 liter(s)**
- Total mash volume **39.6 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **65 C**, Time **35 min**
- Temp **72 C**, Time **40 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **29.7 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **35 min** at **65C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **10.1 liter(s)** of **76C** water or to achieve **29.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg *(40.4%)*	80 %	5
Grain	Strzegom Monachijski typ I	3.5 kg *(35.4%)*	79 %	16
Grain	Grodziski pszeniczny wędzony dębem	1.5 kg *(15.2%)*	80 %	3
Grain	Caraaroma	0.6 kg *(6.1%)*	78 %	400
Grain	Jęczmień palony	0.3 kg *(3%)*	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	50 g	60 min	11 %
Boil	Lublin (Lubelski)	20 g	15 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-33	Ale	Slant	300 ml	Fermentis

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