

## 3 pod rząd

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **21**
- SRM **43.2**
- Style **American Stout**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **45 min**
- Evaporation rate **10 %/h**
- Boil size **12.4 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.8 liter(s)**
- Total mash volume **14.4 liter(s)**

### Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **25 min**

### Mash step by step

- Heat up **10.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **25 min** at **72C**
- Sparge using **5.2 liter(s)** of **76C** water or to achieve **12.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale ale	2 kg (55.6%)	--- %	4
Grain	Monachijski	1 kg (27.8%)	--- %	13
Grain	Cara crystal	0.2 kg (5.6%)	--- %	150
Grain	Strzegom Czekoladowy ciemny	0.2 kg (5.6%)	68 %	1200
Grain	Jęczmień prażony	0.2 kg (5.6%)	--- %	1000

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tomahawk	10 g	30 min	15 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Porter kwas	Ale	Dry	12 g	---

### Extras

Type	Name	Amount	Use for	Time
Flavor	Kawa pażona	100 g	Mash	20 min