

## #24 Czarnuch

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **40**
- SRM **43.2**
- Style **Sweet Stout**

### 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 **3.5 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **29.3 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **22.8 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Carafa II	0.5 kg (7.7%)	70 %	837
Grain	Viking Pale Ale malt	5 kg (76.9%)	80 %	5
Grain	Strzegom Czekoladowy ciemny	0.5 kg (7.7%)	68 %	1200
Grain	Fawcett - Brown	0.5 kg (7.7%)	72 %	180

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	10 g	30 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	15 g	15 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	15 g	5 min	15.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Fermentis