

Czarnuch

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **30**
- SRM **35.2**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **50 liter(s)**
- Trub loss **5 %**
- Size with trub loss **52.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **63.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **44.4 liter(s)**
- Total mash volume **59.2 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **30 min**

Mash step by step

- Heat up **44.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **33.7 liter(s)** of **76C** water or to achieve **63.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg (33.8%)	80 %	4
Grain	Caraaroma	0.7 kg (4.7%)	78 %	400
Grain	Extra black	0.8 kg (5.4%)	65 %	1400
Grain	Fawcett - Pale Chocolate	0.5 kg (3.4%)	71 %	600
Grain	Briess - Pale Ale Malt	5 kg (33.8%)	80 %	7
Grain	Płatki owsiane	0.8 kg (5.4%)	60 %	3
Grain	Monachijski	1 kg (6.8%)	80 %	16
Grain	Biscuit Malt	1 kg (6.8%)	79 %	45

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	60 g	50 min	12.6 %