

Czarnuch

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **32**
- SRM **41.2**
- 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 **38.3 liter(s)**
- Total mash volume **51.1 liter(s)**

Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **38.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **37.8 liter(s)** of **76C** water or to achieve **63.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5.2 kg (38.7%)	81 %	4
Grain	Castle Pale Ale	5 kg (37.2%)	80 %	8
Grain	Viking Malt Wędzony Czereśnią	0.8 kg (5.9%)	82 %	10
Adjunct	Pszenica niestodowana	0.68 kg (5.1%)	75 %	3
Grain	Strzegom Barwiący	0.87 kg (6.5%)	68 %	1300
Grain	Extra black	0.1 kg (0.7%)	65 %	1400
Grain	Strzegom Czekoladowy 1200	0.8 kg (5.9%)	68 %	1202

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sladek	25 g	60 min	6 %
Boil	Marynka	50 g	60 min	8.8 %
Boil	Lublin (Lubelski)	40 g	60 min	4 %