

Stout

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **21**
- SRM **39**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **77 C**, Time **20 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **73.3C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **20 min** at **77C**
- Sparge using **11.9 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	4 kg (74.1%)	80 %	8
Grain	Briess - Chocolate Malt	0.2 kg (3.7%)	60 %	690
Grain	Extra black	0.3 kg (5.6%)	65 %	1400
Grain	Jęczmień palony	0.3 kg (5.6%)	55 %	985
Grain	Pszoniczny	0.6 kg (11.1%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	15 g	60 min	11.6 %
Aroma (end of boil)	Chinook	13 g	5 min	11.6 %