

Stout

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **26**
- SRM **33.2**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.6 liter(s)**

Steps

- Temp **53 C**, Time **10 min**
- Temp **68 C**, Time **80 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.2 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **10 min** at **53C**
- Keep mash **80 min** at **68C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.5 kg (64.8%)	85 %	7
Grain	Żytni	0.5 kg (9.3%)	85 %	8
Grain	Caramunich® typ I	0.5 kg (9.3%)	73 %	80
Grain	Karmelowy 400	0.3 kg (5.6%)	72 %	400
Grain	Special B Malt	0.2 kg (3.7%)	65.2 %	400
Grain	Czekoladowy	0.2 kg (3.7%)	60 %	800
Grain	Strzegom Barwiący	0.2 kg (3.7%)	68 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zeus/Collumbus	10 g	60 min	14 %
Boil	Zeus/Collumbus	20 g	10 min	15.1 %
Whirlpool	Zeus/Collumbus	30 g	0 min	15.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	300 ml	---