

# stout

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **28**
- SRM **31.8**
- Style **Dry 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 **26.8 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **23.4 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **17.5 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Pilsen	3.5 kg (59.8%)	80.5 %	4
Grain	Monachijski	1 kg (17.1%)	80 %	15
Grain	castle malting coffe	0.2 kg (3.4%)	78 %	470
Grain	Strzegom Czekoladowy ciemny	0.2 kg (3.4%)	68 %	1200
Grain	Jęczmień palony	0.3 kg (5.1%)	55 %	985
Grain	płatki jęczmienne	0.35 kg (6%)	65 %	3
Grain	Karmelowy Jasny 20-30EBC optima	0.3 kg (5.1%)	75.9 %	25

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	13.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	---

## Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	10 g	Boil	10 min