

# Espresso Stout

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **25**
- SRM **30.5**
- Style **American 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 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **66.7 C**, Time **60 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.5C**
- Add grains
- Keep mash **60 min** at **66.7C**
- Sparge using **15.5 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Bohemian Pilsner Malt	4 kg (72.7%)	81 %	4
Grain	Pszeniczny	0.5 kg (9.1%)	85 %	4
Grain	Simpsons - Crystal Rye	0.5 kg (9.1%)	73 %	200
Grain	Czekoladowy	0.25 kg (4.5%)	60 %	900
Grain	Jęczmień palony	0.25 kg (4.5%)	55 %	1100

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %
Aroma (end of boil)	Willamette	25 g	10 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	---

## Extras

Type	Name	Amount	Use for	Time
Spice	cynamon	5 g	Boil	10 min

Spice	Kawa	100 g	Boil	1 min
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