

# Stout piwowar kopik

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **33**
- SRM **31.4**
- Style **Dry 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 **12 liter(s)**
- Total mash volume **16 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**

## Mash step by step

- Heat up **12 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Sparge using **17.3 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	2.8 kg (70%)	85 %	7
Grain	Płatki jęczmienne	0.6 kg (15%)	80 %	3
Grain	Jęczmień palony Weyermann	0.3 kg (7.5%)	55 %	985
Grain	Fawcett - Pszeniczny Czekoladowy	0.3 kg (7.5%)	73 %	1001

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Phoenix	20 g	60 min	11 %
Aroma (end of boil)	Fuggles	20 g	20 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP007 - Dry English Ale Yeast	Ale	Liquid	140 ml	White Labs

## Extras

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	5 g	Boil	5 min

## Notes

- pH zacieru 5,3-5,5. Fermentacja 17-19 pod koniec podnieść do 20-21. Refermentacja 70g cukru na 20l w 500ml  
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