

# Czarno na białym

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **43**
- SRM **16**
- 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 **68 C**, Time **60 min**

## Mash step by step

- Heat up **16.2 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- 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	Viking Pale Ale malt	4 kg (74.1%)	80 %	5
Grain	Strzegom Pszeniczny	1 kg (18.5%)	81 %	6
Grain	Strzegom Karmel 300	0.2 kg (3.7%)	70 %	299
Grain	Strzegom Czekoladowy 400	0.1 kg (1.9%)	68 %	400
Grain	Strzegom pszenica prażona	0.1 kg (1.9%)	70 %	1000

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	60 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Us05	Ale	Dry	10 g	Safale

## Extras

Type	Name	Amount	Use for	Time
Flavor	Laktoza	0.5 g	Bottling	7 min
Spice	Wanilia	5 g	Secondary	7 day(s)