

# Saracen

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **13**
- SRM **30.8**
- 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 **15 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.6 liter(s)**

## Steps

- Temp **65 C**, Time **45 min**
- Temp **70 C**, Time **45 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16.2 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **45 min** at **65C**
- Keep mash **45 min** at **70C**
- Keep mash **5 min** at **78C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (74.1%)	80 %	5
Grain	Viking enzymatyczny	0.25 kg (4.6%)	77 %	6
Grain	Płatki jęczmienne	0.4 kg (7.4%)	85 %	3
Grain	Fawcett - Pszeniczny Czekoladowy	0.25 kg (4.6%)	73 %	1001
Grain	Carafa II specjal	0.25 kg (4.6%)	70 %	812
Grain	Strzegom Karmel 600	0.25 kg (4.6%)	68 %	601

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	20 g	40 min	7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Slant	400 ml	Fermentum Mobile