

# Ciemne karmelowe

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **20**
- SRM **30.8**
- Style **Sweet Stout**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24.3 liter(s)**
- Total mash volume **32.4 liter(s)**

## Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**

## Mash step by step

- Heat up **24.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Sparge using **15.5 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	6 kg (74.1%)	79 %	8
Grain	Strzegom Karmel 150	1.5 kg (18.5%)	75 %	150
Grain	Czekoladowy ciemny viking malt	0.1 kg (1.2%)	68 %	950
Grain	Strzegom Czekoladowy jasny	0.2 kg (2.5%)	68 %	400
Grain	Jęczmień palony viking	0.3 kg (3.7%)	55 %	1000

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	12 g	60 min	11.5 %
Boil	Lublin (Lubelski)	40 g	30 min	2.8 %
Boil	Lublin (Lubelski)	30 g	10 min	2.8 %

## Yeasts

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