

# KARAF - Czarny Rycerz

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **19**
- SRM **23.1**
- Style **Schwarzbier**

## Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **19.9 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.7 liter(s)**
- Total mash volume **15.6 liter(s)**

## Steps

- Temp **53 C**, Time **10 min**
- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **60 min**

## Mash step by step

- Heat up **11.7 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **10 min** at **53C**
- Keep mash **15 min** at **64C**
- Keep mash **60 min** at **72C**
- Sparge using **12.1 liter(s)** of **76C** water or to achieve **19.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	1.8 kg (46.2%)	82 %	4
Grain	Monachijski typ II 20-25 EBC Weyermann	1.5 kg (38.5%)	80 %	20
Grain	Słód Caramunich Typ II Weyermann	0.4 kg (10.3%)	73 %	120
Grain	Weyermann - Carafa II	0.1 kg (2.6%)	70 %	690
Grain	Viking Barwiący	0.1 kg (2.6%)	65 %	1400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	24 g	60 min	4.5 %
Boil	Saaz (Czech Republic)	12 g	15 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

Lallemand - LalBrew Voss Kveik	Ale	Dry	5.5 g	Lallemand
-----------------------------------	-----	-----	-------	-----------