

# czerwony karzeł

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **34**
- SRM **11.5**
- Style **Irish Red Ale**

## 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 **67 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.7 liter(s)**
- Total mash volume **22.7 liter(s)**

## Steps

- Temp **62 C**, Time **50 min**
- Temp **72 C**, Time **20 min**

## Mash step by step

- Heat up **17.7 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **20 min** at **72C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale Flagon	3.5 kg (69.3%)	80 %	5
Grain	Karmelowy Czerwony	0.5 kg (9.9%)	75 %	59
Grain	Pszeniczny	0.3 kg (5.9%)	85 %	4
Grain	Jęczmień palony	0.05 kg (1%)	55 %	1200
Grain	Caramel/Crystal Malt - 10L	0.5 kg (9.9%)	75 %	20
Grain	Karmelowy Jasny 30EBC	0.2 kg (4%)	75 %	90

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	13.5 %
Aroma (end of boil)	puławski	20 g	5 min	6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - London Ale III	Ale	Liquid	60 ml	Wyeast Labs