

# Polski Kaskader

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **31**
- SRM **4.2**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

## Steps

- Temp **53 C**, Time **10 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**

## Mash step by step

- Heat up **14.4 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **10 min** at **53C**
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.3 kg (89.6%)	81 %	4
Grain	Monachijski typ II 20-25 EBC Weyermann	0.5 kg (10.4%)	80 %	20

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	16 g	60 min	13.5 %
Boil	Cascade PL	20 g	5 min	7.8 %
Whirlpool	Cascade PL	30 g	10 min	7.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Lallemand diamond Lager	Lager	Culture	100 g	Starter 1L , dobowy