

# jasne polskie z karmelowym

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **25**
- SRM **4.1**

## Batch size

- Expected quantity of finished beer **58 liter(s)**
- Trub loss **0 %**
- Size with trub loss **58 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **68.9 liter(s)**

## Mash information

- Mash efficiency **81 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **33.9 liter(s)**
- Total mash volume **45.2 liter(s)**

## Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **33.9 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **46.3 liter(s)** of **76C** water or to achieve **68.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński malteurop	10 kg (88.5%)	85 %	4
Grain	karmelowy	0.8 kg (7.1%)	80 %	30
Grain	monachijski	0.5 kg (4.4%)	85 %	10

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	marynka	68 g	50 min	7.4 %
Boil	lubelski	50 g	30 min	2.6 %
Boil	lubelski	50 g	5 min	2.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	300 ml	Safale