

# Polskie Ale z Końcówek

- Gravity **11 BLG**
- ABV ---
- IBU **30**
- SRM **3.3**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

## Steps

- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **15 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **30 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **21.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszoniczny	1.7 kg (34%)	85 %	4
Grain	Strzegom Pilzniejszy	2.8 kg (56%)	80 %	4
Grain	Optima Karmel 8	0.5 kg (10%)	80 %	8

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	12.5 %
Boil	Lublin (Lubelski)	25 g	20 min	3.5 %
Aroma (end of boil)	Lublin (Lubelski)	25 g	5 min	3.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	150 ml	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Fining	Mech Irlandzki	10 g	Boil	10 min