

# krautner

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **65**
- SRM **3.5**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **10 %**
- Size with trub loss **13.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **17.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11.9 liter(s)**
- Total mash volume **15.3 liter(s)**

## Steps

- Temp **54 C**, Time **20 min**
- Temp **62 C**, Time **25 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **11.9 liter(s)** of strike water to **58.9C**
- Add grains
- Keep mash **20 min** at **54C**
- Keep mash **25 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **8.8 liter(s)** of **76C** water or to achieve **17.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3 kg (88.2%)	80 %	4
Grain	płatki ryżowe błyskawiczne	0.4 kg (11.8%)	--- %	---

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	39 g	60 min	8.5 %
Aroma (end of boil)	Puławski	20 g	45 min	3.5 %
Whirlpool	Puławski	15 g	0 min	3.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Gozdawa German Lager W35	Lager	Dry	10 g	Gozdawa

## Extras

Type	Name	Amount	Use for	Time
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Other	mech irlandzki	3 g	Boil	55 min
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