

Kristal

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **32**
- SRM **3.7**
- Style **Classic American Pilsner**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **28.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.5 kg (75%)	81 %	4
Grain	Płatki ryżowe	1.5 kg (25%)	78 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	60 min	6.5 %
Boil	Marynka	30 g	10 min	6.5 %
Boil	Marynka	30 g	0 min	6.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	400 ml	Fermentis