

## Pils 1. 2019

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **31**
- SRM **6**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **10 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **32.2 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

### Steps

- Temp **52 C**, Time **20 min**
- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

### Mash step by step

- Heat up **15.9 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **20 min** at **52C**
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Sparge using **21.6 liter(s)** of **76C** water or to achieve **32.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4 kg (75.5%)	80 %	4
Grain	Strzegom Monachijski typ II	1 kg (18.9%)	79 %	22
Grain	Caramunich® typ I	0.3 kg (5.7%)	73 %	80

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	9 %
Boil	sybilla szyszka uniwersalny	20 g	10 min	6.5 %
Boil	Marynka	10 g	10 min	9 %
Boil	sybilla szyszka uniwersalny	30 g	0 min	6.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	10 g	Safale