

## pills singel hoop

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **30**
- SRM **4.1**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.4 liter(s)**
- Total mash volume **21.1 liter(s)**

### Steps

- Temp **46 C**, Time **0 min**
- Temp **50 C**, Time **10 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **16.4 liter(s)** of strike water to **49.7C**
- Add grains
- Keep mash **0 min** at **46C**
- Keep mash **10 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **13.6 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4 kg (85.1%)	80 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (10.6%)	79 %	16
Grain	Cara-Pils/Dextrine	0.2 kg (4.3%)	72 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	40 g	60 min	4.5 %
Boil	Saaz (Czech Republic)	30 g	15 min	4.5 %
Boil	Saaz (Czech Republic)	30 g	3 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
fm 704	Lager	Liquid	40 ml	fermentis