

## Hop Session

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **30**
- SRM **4.5**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.1 liter(s) / kg**
- Mash size **15.2 liter(s)**
- Total mash volume **20.1 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15.2 liter(s)** of strike water to **74.6C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **17.2 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (81.6%)	79 %	6
Grain	Weyermann - Carapils	0.5 kg (10.2%)	78 %	4
Grain	Karmelowy Jasny 30EBC	0.2 kg (4.1%)	75 %	30
Grain	Płatki owsiane	0.2 kg (4.1%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	10 g	60 min	10.5 %
Boil	Cascade	30 g	20 min	6 %
Aroma (end of boil)	Cascade	30 g	10 min	6 %
Whirlpool	Azacca	60 g	0 min	14 %
Dry Hop	Azacca	40 g	4 day(s)	14 %
Dry Hop	Cascade	40 g	4 day(s)	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis