

## oels

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **41**
- SRM **8.8**
- Style **English IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **27.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

### Steps

- Temp **50 C**, Time **5 min**
- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **5 min**

### Mash step by step

- Heat up **16.5 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **5 min** at **50C**
- Keep mash **60 min** at **64C**
- Keep mash **5 min** at **72C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **27.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (72.7%)	80 %	5
Grain	Strzegom Karmel 150	0.5 kg (9.1%)	75 %	150
Grain	Płatki pszeniczne	0.5 kg (9.1%)	85 %	3
Grain	Płatki owsiane	0.5 kg (9.1%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	30 g	55 min	9.5 %
Aroma (end of boil)	Citra	30 g	10 min	12 %
Dry Hop	Mosaic	15 g	5 day(s)	10 %

### Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	---