

Electric Pale Ale

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **37**
- SRM **4.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **12 %/h**
- Boil size **30.6 liter(s)**

Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **29 liter(s)**
- Total mash volume **34.8 liter(s)**

Steps

- Temp **67 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **29 liter(s)** of strike water to **71.7C**
- Add grains
- Keep mash **90 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **7.4 liter(s)** of **76C** water or to achieve **30.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.6 kg (79.3%)	81 %	4
Grain	Malteurop Wiedeński	1 kg (17.2%)	79 %	8
Grain	Strzegom Karmel 30	0.2 kg (3.4%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	15 g	20 min	10.5 %
Boil	Amarillo	15 g	20 min	9.5 %
Boil	Centennial	30 g	10 min	10.5 %
Boil	Amarillo	30 g	10 min	9.5 %
Aroma (end of boil)	Centennial	30 g	0 min	10.5 %
Aroma (end of boil)	Amarillo	30 g	0 min	9.5 %
Dry Hop	Citra	50 g	5 day(s)	12 %

Yeasts

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

Extras

Type	Name	Amount	Use for	Time
Fining	Whirlfloc	3 g	Boil	15 min

Notes

- Ca=110, Mg=18, Na=16, Cl=50, S04=275
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