PA nawinie wl.

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **33**
- SRM **4.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **64 C**, Time **60 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1 kg *(20%)*	80 %	5
Grain	Strzegom Pilzneński	2 kg *(40%)*	80 %	4
Grain	Strzegom Wiedeński	2 kg *(40%)*	79 %	10

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	30 g	60 min	3.8 %
Boil	Cascade	15 g	45 min	7.1 %
Boil	Mosaic	10 g	30 min	12.1 %
Aroma (end of boil)	Cascade	20 g	0 min	10 %
Dry Hop	Mosaic	25 g	4 day(s)	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis

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