

## APA02

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- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **36**
- SRM **4.4**
- Style **American Pale Ale**

### 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 **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **0 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **76C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (70%)	80 %	5
Grain	Pszeniczny	1 kg (20%)	85 %	4
Grain	Płatki pszeniczne	0.4 kg (8%)	85 %	3
Grain	Karmelowy Czerwony	0.1 kg (2%)	75 %	59

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	20 g	60 min	15.5 %
Aroma (end of boil)	Challenger	15 g	10 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
gęstwa US05	Ale	Slant	150 ml	---

### Extras

Type	Name	Amount	Use for	Time
Water Agent	gips piwowarski	20 g	Mash	---