

## 48 APA

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **25**
- SRM **4.7**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **30.4 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 **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Bestt Pale Ale	3 kg (60%)	80.5 %	6
Grain	Monachijski	1 kg (20%)	80 %	16
Grain	Pszeniczny	1 kg (20%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	20 g	60 min	13.2 %
Whirlpool	Mosaic	20 g	0 min	10 %
Whirlpool	Equinox	20 g	0 min	13.1 %
Whirlpool	Simcoe	20 g	0 min	13.2 %
Dry Hop	Mosaic	80 g	3 day(s)	10 %
Dry Hop	Equinox	80 g	3 day(s)	13.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Liquid	30 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Herb	Mięta	2 g	Boil	20 min
Flavor	Zest z limonki	2 g	Boil	20 min
Flavor	Zesta z grejpfruta	3 g	Boil	20 min
Herb	Mięta	2 g	Secondary	4 day(s)
Flavor	Zest z limonki	5 g	Secondary	4 day(s)
Flavor	Zesta z grejpfruta	3 g	Secondary	4 day(s)