

# MAPA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **45**
- SRM **4**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **34.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **29.3 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **77 C**, Time **5 min**

## Mash step by step

- Heat up **22.8 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **18.1 liter(s)** of **76C** water or to achieve **34.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5.5 kg (84.6%)	80 %	5
Grain	Strzegom Pilzneński	0.5 kg (7.7%)	80 %	4
Grain	Viking Wheat Malt	0.5 kg (7.7%)	83 %	5

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	25 g	60 min	13 %
Boil	Mosaic	20 g	30 min	10 %
Boil	Liberty	10 g	20 min	4.5 %
Boil	Centennial	20 g	5 min	10.5 %

## Yeasts

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

## Extras

Type	Name	Amount	Use for	Time
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Herb	mięta	50 g	Boil	5 min
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