

# MS18

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **48**
- SRM **3.8**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **3 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.9 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **65 C**, Time **70 min**
- Temp **75 C**, Time **10 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **70 min** at **65C**
- Keep mash **10 min** at **75C**
- Sparge using **15.9 liter(s)** of **76C** water or to achieve **24.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (77.8%)	80 %	5
Grain	Pszeniczny	1 kg (22.2%)	85 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	5 g	50 min	9.5 %
Boil	Citra	5 g	50 min	12 %
Boil	Eureka!	5 g	50 min	18 %
Aroma (end of boil)	Amarillo	30 g	5 min	9.5 %
Aroma (end of boil)	Citra	30 g	5 min	12 %
Aroma (end of boil)	Eureka!	30 g	5 min	18 %
Dry Hop	Amarillo	50 g	2 day(s)	9.5 %
Dry Hop	Citra	50 g	2 day(s)	12 %
Dry Hop	Eureka!	50 g	2 day(s)	18 %

## Yeasts

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