

# Amer pale ale

- Gravity **12.1 BLG**
- ABV ---
- IBU **72**
- SRM **6.2**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **19.4 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3 kg (54.5%)	85 %	7
Grain	Weyermann - Bohemian Pilsner Malt	2 kg (36.4%)	81 %	4
Grain	Munich malt	0.2 kg (3.6%)	--- %	14
Grain	Caramunich® typ I	0.3 kg (5.5%)	73 %	80

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	50 g	60 min	13.5 %
Aroma (end of boil)	Bullion	25 g	5 min	7.75 %
Aroma (end of boil)	Ultra	25 g	0 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
M15	Ale	Dry	10 g	Mangrove