

# Pale Ale

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- Gravity **10 BLG**
- ABV **4 %**
- IBU **18**
- SRM **4.6**
- 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 **65 min**
- Evaporation rate **10 %/h**
- Boil size **25.5 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **16 liter(s)** of strike water to **74C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.8 kg (95%)	85 %	7
Grain	Carahell	0.2 kg (5%)	77 %	26

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	20 g	65 min	4.5 %
Boil	Willamette	20 g	15 min	5 %
Aroma (end of boil)	Willamette	10 g	5 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Fermentis