

# Pale Ale Bitter

- Gravity **11.7 BLG**
- ABV ---
- IBU **36**
- SRM **9.5**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **29.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **17.8 liter(s)**

## Steps

- Temp **53 C**, Time **20 min**
- Temp **67 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **13.4 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **20 min** at **53C**
- Keep mash **30 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **20.5 liter(s)** of **76C** water or to achieve **29.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4 kg (89.9%)	85 %	7
Grain	Cara Crystal Castlemalting	0.15 kg (3.4%)	78 %	150
Grain	Weyermann - Carapils	0.15 kg (3.4%)	78 %	4
Grain	Weyermann - Carawheat	0.15 kg (3.4%)	77 %	110

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	30 g	70 min	7 %
Boil	Styrian Golding	20 g	55 min	5 %
Aroma (end of boil)	Styrian Golding	40 g	0 min	5 %
Dry Hop	Minstrel	30 g	5 day(s)	4.9 %
Dry Hop	Epick	30 g	5 day(s)	3.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Wyeast - British Ale - 1098	Ale	Liquid	125 ml	Wyeast Labs
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### Extras

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	15 g	Boil	15 min