

# Pale ale

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **33**
- SRM **5.6**
- 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 **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**

## Mash step by step

- Heat up **15.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (90.9%)	80 %	5
Grain	Karmelowy Czerwony	0.4 kg (9.1%)	75 %	59

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	9 %
Boil	Lublin (Lubelski)	10 g	15 min	4 %
Whirlpool	Lublin (Lubelski)	20 g	---	4 %

## Notes

- Piwa wyszło ok 23l  
do refermentacji użyłem 140g cukru  
*Dec 12, 2017, 11:46 AM*