

## #4 American Pale Ale

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **16**
- SRM **9.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **6 %**
- Size with trub loss **22.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **27.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **73.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **78C**
- Sparge using **17.1 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (95.2%)	80 %	6
Grain	Strzegom Karmel 300	0.25 kg (4.8%)	70 %	299

### Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Citra	20 g	0 min	12 %
Aroma (end of boil)	Amarillo	20 g	0 min	9.5 %
Whirlpool	Amarillo	30 g	30 min	9.5 %
Whirlpool	Cascade	20 g	30 min	6 %
Dry Hop	Citra	30 g	3 day(s)	12 %
Dry Hop	Cascade	30 g	3 day(s)	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Us-05	Ale	Dry	10 g	---