

## #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   | ---        |