

# Ale

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **35**
- SRM **4.8**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **80 liter(s)**
- Trub loss **5 %**
- Size with trub loss **84 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **101.2 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **64.8 liter(s)**
- Total mash volume **83.3 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **64.8 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **54.9 liter(s)** of **76C** water or to achieve **101.2 liter(s)** of wort

## Fermentables

| Type  | Name               | Amount        | Yield | EBC |
|-------|--------------------|---------------|-------|-----|
| Grain | Pilzneński         | 13 kg (70.3%) | 81 %  | 4   |
| Grain | Monachijski        | 4 kg (21.6%)  | 80 %  | 16  |
| Grain | Pszeniczny         | 1 kg (5.4%)   | 85 %  | 4   |
| Grain | Strzegom Karmel 30 | 0.5 kg (2.7%) | 75 %  | 30  |

## Hops

| Use for             | Name       | Amount | Time   | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil                | Chinook    | 70 g   | 60 min | 11.7 %     |
| Aroma (end of boil) | Centennial | 100 g  | 10 min | 9.5 %      |
| Aroma (end of boil) | Cascade    | 50 g   | 10 min | 5.8 %      |

## Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| Us-05 | Ale  | Dry  | 34.5 g | ---        |