

# papa

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- Gravity **14.1 BLG**
- ABV ---
- IBU **63**
- SRM **4.1**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

## Steps

- Temp **64 C**, Time **40 min**
- Temp **68 C**, Time **10 min**
- Temp **72 C**, Time **5 min**

## Mash step by step

- Heat up **15 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **10 min** at **68C**
- Keep mash **5 min** at **72C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount      | Yield | EBC |
|-------|---------------------|-------------|-------|-----|
| Grain | Strzegom Pilzneński | 5 kg (100%) | 80 %  | 4   |

## Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | lunga             | 40 g   | 60 min | 11 %       |
| Boil    | Lublin (Lubelski) | 25 g   | 10 min | 4 %        |
| Boil    | lunga             | 25 g   | 10 min | 11 %       |
| Boil    | Marynka           | 25 g   | 2 min  | 10 %       |
| Boil    | lunga             | 20 g   | 2 min  | 11 %       |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11 g   | Safale     |