

# Bitter

- Gravity **10.4 BLG**
- ABV ---
- IBU **22**
- SRM **10.6**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **10 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.2 liter(s)**
- Total mash volume **9.6 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

## Mash step by step

- Heat up **7.2 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **75C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount         | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale   | 2 kg (83.3%)   | 79 %  | 6   |
| Grain | Strzegom Karmel 150 | 0.15 kg (6.3%) | 75 %  | 150 |
| Grain | Oats, Flaked        | 0.1 kg (4.2%)  | 80 %  | 2   |
| Grain | bursztynowy         | 0.15 kg (6.3%) | 75 %  | 70  |

## Hops

| Use for | Name       | Amount | Time   | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil    | Magnum     | 10 g   | 15 min | 13.5 %     |
| Boil    | Palisade   | 15 g   | 10 min | 7.5 %      |
| Boil    | Willamette | 20 g   | 0 min  | 5.5 %      |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 6 g    | Safale     |