

# #1

- Gravity **17.4 BLG**
- ABV ---
- IBU **47**
- SRM **40**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **24.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **29.6 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.7 liter(s)**
- Total mash volume **27.6 liter(s)**

## Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **20.7 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **15.8 liter(s)** of **76C** water or to achieve **29.6 liter(s)** of wort

## Fermentables

| Type    | Name                        | Amount        | Yield | EBC  |
|---------|-----------------------------|---------------|-------|------|
| Grain   | Strzegom Pale Ale           | 6 kg (78.9%)  | 79 %  | 6    |
| Grain   | Strzegom Monachijski typ I  | 0.6 kg (7.9%) | 79 %  | 16   |
| Grain   | Strzegom Czekoladowy ciemny | 0.3 kg (3.9%) | 68 %  | 1200 |
| Adjunct | Płatki jęczmienne           | 0.4 kg (5.3%) | --- % | ---  |
| Adjunct | Jęczmień prażony            | 0.3 kg (3.9%) | 55 %  | 985  |

## Hops

| Use for | Name   | Amount | Time   | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil    | Target | 30 g   | 60 min | 19 %       |

## Yeasts

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