

# angielskie gorzkie

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **34**
- SRM **11.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.1 liter(s)**

## Mash information

- Mash efficiency **95 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **67 C**, Time **80 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **80 min** at **67C**
- Sparge using **22.1 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount        | Yield | EBC |
|-------|---------------------|---------------|-------|-----|
| Grain | Strzegom Pilzneński | 5 kg (90.9%)  | 80 %  | 4   |
| Grain | Strzegom Karmel 300 | 0.5 kg (9.1%) | 70 %  | 299 |

## Hops

| Use for             | Name       | Amount | Time   | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil                | Challenger | 50 g   | 50 min | 7.4 %      |
| Boil                | Hallertau  | 10 g   | 15 min | 5 %        |
| Boil                | Hallertau  | 10 g   | 10 min | 5 %        |
| Aroma (end of boil) | Hallertau  | 10 g   | 5 min  | 5 %        |
| Whirlpool           | Hallertau  | 20 g   | ---    | 5 %        |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Safale     |