

# Jesienna rozgrzewka

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **37**
- SRM **5.6**
- Style **American Amber Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

## Steps

- Temp **66 C**, Time **40 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **17.5 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **40 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

| Type  | Name               | Amount       | Yield | EBC |
|-------|--------------------|--------------|-------|-----|
| Grain | słód pale ale      | 4.5 kg (90%) | 85 %  | 3   |
| Grain | Karmelowy Czerwony | 0.5 kg (10%) | 75 %  | 59  |

## Hops

| Use for | Name               | Amount | Time   | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil    | Amarillo           | 10 g   | 10 min | 6.3 %      |
| Boil    | Szyszka z Kopaniny | 60 g   | 60 min | 5.2 %      |

Dać 30% więcej niż granulatu = czyli 80g szyszki w woreczku muślinowym.

## Yeasts

| Name                  | Type | Form | Amount | Laboratory |
|-----------------------|------|------|--------|------------|
| US West Coast gozdawa | Ale  | Dry  | 11.5 g | ---        |