

## ryżowa apa

- Gravity **11.8 BLG**
- ABV ---
- IBU **40**
- SRM **4.1**
- Style **American Pale 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 **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **2 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **2 min** at **78C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type    | Name                | Amount        | Yield | EBC |
|---------|---------------------|---------------|-------|-----|
| Grain   | Strzegom Pilzneński | 4 kg (90.9%)  | 80 %  | 4   |
| Adjunct | płatki ryżowe       | 0.4 kg (9.1%) | 60 %  | 5   |

### Hops

| Use for | Name     | Amount | Time   | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil    | Amarillo | 30 g   | 30 min | 9.5 %      |
| Boil    | Amarillo | 30 g   | 10 min | 9.5 %      |
| Boil    | Amarillo | 40 g   | 0 min  | 9.5 %      |

### Yeasts

| Name | Type | Form  | Amount | Laboratory |
|------|------|-------|--------|------------|
| us 5 | Ale  | Slant | 200 ml | ---        |