

ira 2019

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **35**
- SRM **13**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **10 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **32.2 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **17.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **20.6 liter(s)** of **76C** water or to achieve **32.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 2.5 kg (43.1%) | 80 % | 4 |
| Grain | Strzegom Monachijski typ II | 1 kg (17.2%) | 79 % | 22 |
| Grain | Viking Pale Ale | 0.5 kg (8.6%) | 80 % | 6 |
| Grain | Karmelowy Czerwony | 1 kg (17.2%) | 75 % | 50 |
| Grain | red crystal | 0.3 kg (5.2%) | 80 % | 400 |
| Grain | Bestmalz Carmel Pils | 0.5 kg (8.6%) | 75 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------------------|--------|--------|------------|
| Boil | sybilla szyszka uniwersalny | 30 g | 60 min | 6.5 % |
| Boil | sybilla szyszka uniwersalny | 17 g | 30 min | 6.5 % |
| Boil | Marynka | 10 g | 30 min | 9 % |
| Boil | perle uniwersalny | 20 g | 10 min | 7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------|-------------|-------------|---------------|-------------------|
| fermentis US-5 | Ale | Slant | 100 ml | --- |