

AAAAAAAAAAAA

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **79**
- SRM **9.2**

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 liter(s) / kg**
- Mash size **17.1 liter(s)**
- Total mash volume **22.8 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **17.1 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **77C**
- Sparge using **13.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale | 4 kg (70.2%) | 79 % | 6 |
| Grain | Viking Malt Wędzony Czereśnią | 1 kg (17.5%) | 82 % | 10 |
| Grain | Płatki owsiane | 0.6 kg (10.5%) | 85 % | 3 |
| Grain | Strzegom Karmel 600 | 0.1 kg (1.8%) | 68 % | 601 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 30 g | 60 min | 15.5 % |
| Boil | Columbus/Tomahawk/Zeus | 20 g | 25 min | 15.5 % |
| Boil | Citra | 10 g | 10 min | 12 % |
| Boil | Citra | 10 g | 5 min | 12 % |
| Boil | Cascade | 15 g | 5 min | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale | Dry | 10 g | Safale |