

Gapa

- Gravity **13.1 BLG**
- ABV ---
- IBU **43**
- SRM **4.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.66 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16 liter(s)** of strike water to **74.6C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **25 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **19 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 4 kg (66.7%) | 80 % | 5 |
| Grain | Strzegom Pilzneński | 0.6 kg (10%) | 80 % | 4 |
| Grain | Pszeniczny | 0.5 kg (8.3%) | 85 % | 4 |
| Grain | Monachijski | 0.9 kg (15%) | 80 % | 16 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|----------|------------|
| Boil | Citra | 15 g | 60 min | 12 % |
| Boil | Cascade | 10 g | 60 min | 6 % |
| Boil | Citra | 10 g | 20 min | 12 % |
| Boil | Cascade | 5 g | 20 min | 6 % |
| Aroma (end of boil) | Citra | 20 g | 10 min | 12 % |
| Aroma (end of boil) | Cascade | 20 g | 10 min | 6 % |
| Dry Hop | Citra | 20 g | 5 day(s) | 12 % |
| Dry Hop | Cascade | 30 g | 5 day(s) | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|-------------|-------------|---------------|-------------------|
| us-05 | Ale | Dry | 11.5 g | --- |