

Before The Start

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **40**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **30 %/h**
- Boil size **23 liter(s)**

Mash information

- Mash efficiency **66 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **66 C**, Time **90 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **90 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **13.4 liter(s)** of **76C** water or to achieve **23 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 2 kg (41.7%) | 80 % | 5 |
| Grain | Strzegom Pilzniejszy | 2.8 kg (58.3%) | 80 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 10 g | 60 min | 15.5 % |
| Boil | Mosaic | 40 g | 5 min | 10 % |
| Boil | Citra | 60 g | 2 min | 12 % |
| Whirlpool | Chinook | 10 g | 0 min | 13 % |
| Dry Hop | Citra | 30 g | 4 day(s) | 12 % |
| Dry Hop | Mosaic | 30 g | 4 day(s) | 10 % |