

## single hop

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **22**
- SRM **4**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **40 min** at **64C**
- Keep mash **25 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.5 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

### Fermentables

| Type    | Name                  | Amount         | Yield | EBC |
|---------|-----------------------|----------------|-------|-----|
| Grain   | Viking Pale Ale malt  | 5 kg (97.1%)   | 80 %  | 5   |
| Adjunct | Pszenica niestodowana | 0.15 kg (2.9%) | 75 %  | 3   |

### Hops

| Use for             | Name    | Amount | Time     | Alpha acid |
|---------------------|---------|--------|----------|------------|
| Boil                | Ahtanum | 25 g   | 60 min   | 5 %        |
| Boil                | Ahtanum | 10 g   | 30 min   | 5 %        |
| Boil                | Ahtanum | 20 g   | 15 min   | 5 %        |
| Aroma (end of boil) | Ahtanum | 35 g   | 0 min    | 5 %        |
| Dry Hop             | Ahtanum | 50 g   | 5 day(s) | 5 %        |

### Yeasts

| Name  | Type | Form   | Amount  | Laboratory |
|-------|------|--------|---------|------------|
| fm 52 | Ale  | Liquid | 1000 ml | ---        |