

## appa

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **25**
- SRM **3.2**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **77 C**, Time **10 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **71.8C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **77C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

| Type  | Name       | Amount      | Yield | EBC |
|-------|------------|-------------|-------|-----|
| Grain | Pilzneński | 5 kg (100%) | 81 %  | 4   |

### Hops

| Use for             | Name       | Amount | Time     | Alpha acid |
|---------------------|------------|--------|----------|------------|
| Aroma (end of boil) | Chinook    | 25 g   | 11 min   | 11.2 %     |
| Aroma (end of boil) | Centennial | 25 g   | 11 min   | 9.4 %      |
| Aroma (end of boil) | Amarillo   | 25 g   | 11 min   | 7.3 %      |
| Dry Hop             | Chinook    | 25 g   | 3 day(s) | 11.2 %     |
| Dry Hop             | Centennial | 25 g   | 3 day(s) | 9.4 %      |
| Dry Hop             | Amarillo   | 25 g   | 3 day(s) | 7.3 %      |

### Yeasts

| Name            | Type | Form   | Amount  | Laboratory |
|-----------------|------|--------|---------|------------|
| FM53 Voss kveik | Ale  | Liquid | 1200 ml | FM         |