

kwaz

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **18**
- SRM **3.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.3 liter(s)**
- Total mash volume **17.1 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **13.3 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **11.2 liter(s)** of **76C** water or to achieve **20.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pilsner malt | 3.2 kg (84.2%) | 82 % | 4 |
| Grain | Weyermann - Carapils | 0.3 kg (7.9%) | 78 % | 4 |
| Grain | Oats, Flaked | 0.3 kg (7.9%) | 80 % | 2 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|-------------|--------|----------|------------|
| Boil | lunga | 5 g | 60 min | 11 % |
| Whirlpool | Oktawia | 50 g | 5 min | 7.4 % |
| Whirlpool | amora preta | 50 g | 5 min | 7.3 % |
| Dry Hop | EXP 2/20 | 100 g | 5 day(s) | 11.2 % |
| Dry Hop | amora preta | 50 g | 5 day(s) | 7.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------|------|-------|--------|------------|
| lactobacillus | Ale | Dry | 5 g | --- |
| US-05 | Ale | Slant | 150 ml | --- |